SAMSUNG ELECTRONICS

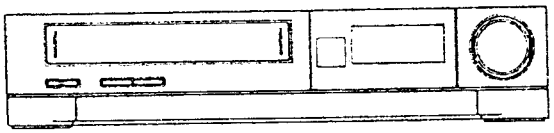
VHS HQ PAL SECAM

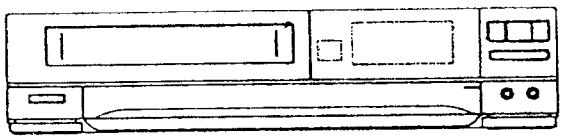
SERVICE MANUAL

MODEL : VK-300

SVM-P13-016-1E
68139 - 132 - 116

VIDEO CASSETTE RECORDER





VK-300

SPECIFICATIONS

Format :	VHS PAL standard
Video Recording System :	4'd ; Double Azimuth 4 Rotary Heads 2'd ; 2 Rotary Heads, Helical Scanning System Luminance ; FM Azimuth recording Color ; Down converted subcarrier phase shifted direct recording
Television System :	CCIR, OIRT standard (B/G, D/K System)
Tape Width :	12.65 mm (1/2 inch)
Tape Speed :	SP ; 23.39 mm/sec LP ; 11.69 mm/sec
Recording/Playback Time :	SP ; 4 hours with E-240 type LP ; 8 hours with E-240 type
FF/REW Time :	Less than 3 min 10 sec in REW, Less than 3 min 40 sec in FF with E-180
Heads :	Video ; 4'd - Double Azimuth 4 rotary heads 2'd - 2 Rotary head, Helical scanning system Audio/Control ; 1 stationary head Erase ; 1 full track erase
VIDEO	
Input :	0.5 to 2.0 Vp-p ; 75 ohm unbalanced
Output :	1.0 Vp-p ; 75 ohm unbalanced
Signal-to-Noise Ratio :	SP ; Better than 43 dB LP ; Better than 40 dB
Horizontal Resolution :	SP ; More than 240 Lines LP ; More than 220 Lines

AUDIO	
Input :	Line ; -8 dBm, 50 Kohm unbalanced
Output :	Line ; -4dBm, 1 Kohm unbalanced
Wow-Flutter :	SP ; 0.4 % Max LP ; 1.2 % Max
Frequency Response :	SP ; 100Hz – 8KHz LP ; 100Hz – 5KHz
Receiving Channel :	VHF LOW, VHF HIGH, UHF
Power Requirement :	100 –240V (AC 50/60Hz)
Power Consumption :	Approx. 25 watts
Operation Temperature :	41 ° F – 104 ° F (5 ° C – 40 ° C)
Operation Humidity :	10 % – 75 %
Weight :	5 Kg
Dimensions :	420 (W) x 87.5 (H) x 314 (D) mm

Printed in Korea

MAR. 1993

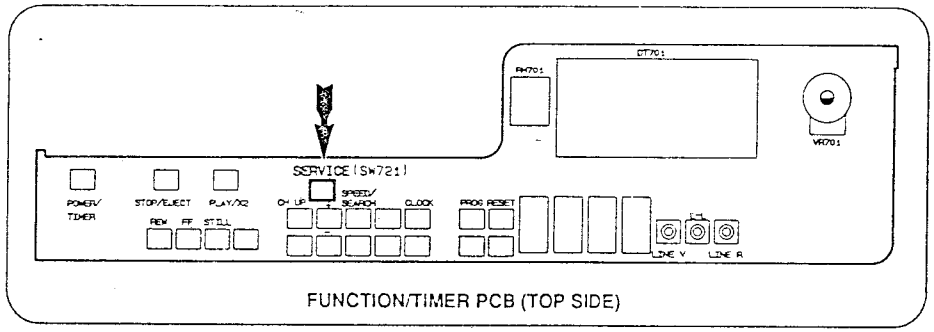
IMPORTANT SERVICE NOTICE

1. Service Option

For this chassis of VCR, the sensor (start / end / reel) are located on the Main PCB not in the deck assembly.
There is a important service option that has to be followed to repair Main PCB without "deck assembly" connected.
To imitate the function of the sensor, push the "SERVICE" key (SW721) on the Function/Timer PCB.
See diagram below.

NOTE

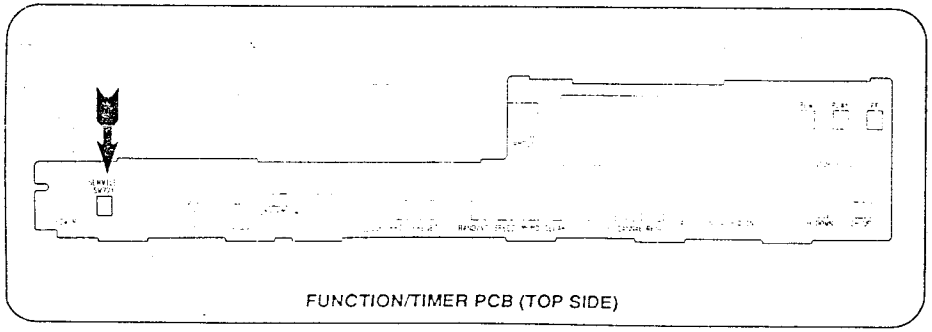
After connecting extension cable 4 between deck assembly and Main PCB, to make a cassette load, cover start sensor, then press and hold a cassette in the housing assembly.



FUNCTION/TIMER PCB (TOP SIDE)

Two types of Function/Timer are used for Model : VK-330/VK-300
(One is with service key, another is without service key)

TYPE WITH SERVICE KEY



FUNCTION/TIMER PCB (TOP SIDE)

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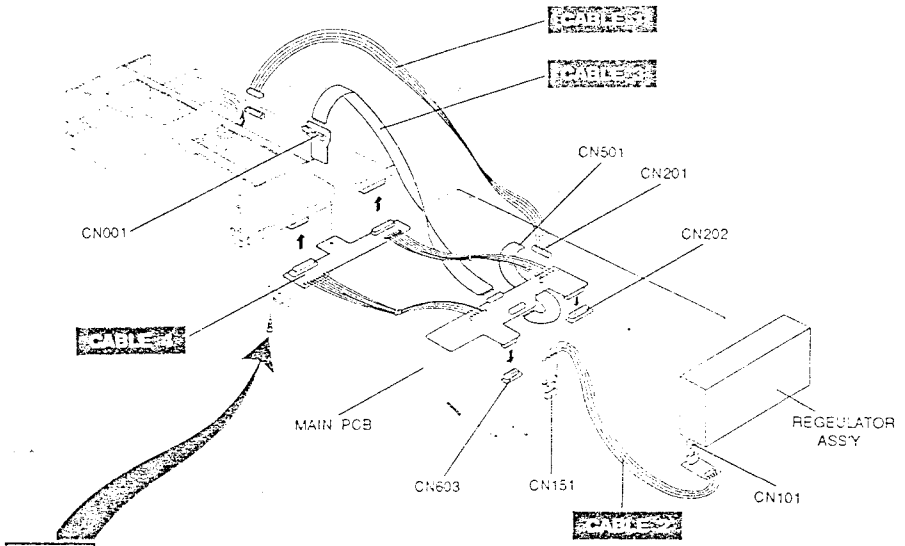


NOTE

Remove one (1) screw from the eject drive gear and connect extension cable, and install the screw again.

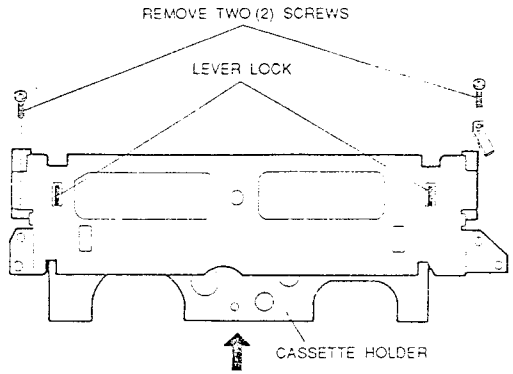
4. How to operate the VCR without a cassette tape

NOTE

First, push the "**SERVICE**" key (SW721) on the Function/Timer PCB.

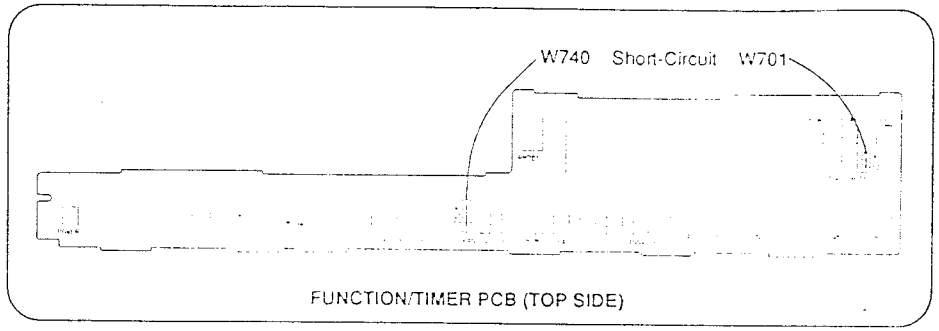
Method 1 : Press the top of the lever lock (L) and (R) simultaneously, then push the cassette holder.
All function will work in this mode.

Method 2 : Remove two (2) screws securing the upper chassis, then lift up the upper chassis. Push the cassette holder.
All function will work in this mode.



TYPE WITHOUT SERVICE KEY

How to imitate the function of the sensor ;
Short-circuit between W701 and W740 using wire-jumper temporarily.



FUNCTION/TIMER PCB (TOP SIDE)

NOTE

To release the imitated function of sensor, push the "**RESET**" key on the Function/Timer PCB or unplug the AC power cord and plug it again.

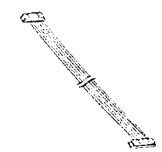
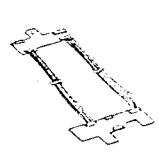
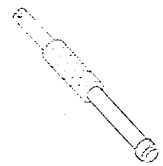
2. How to use the Service Jig

To have extended service ability for this unit, you must purchase the "Service Jig for X-3 Chassis VCR".

NOTE

This service jig can be used for several models of Samsung VCR's.
Please keep it for future use.

Jig Item	Code NO.	Description	Sketch NO.
Extension			
Cable 1	68140-300-103	Use for Cylinder Motor ⟷ Main PCB (CN201) Connecting Cable	A
Cable 2	68140-300-105	Use for Regulator (CN101) ⟷ Main PCB (CN151) Connecting Cable	B
Cable 3	68140-300-106	Use for A/C Head (CN001) ⟷ Extension Cable 4 Connecting Cable	C
Cable 4	68140-300-107	Use for Deck ⟷ Main PCB (CN202, CN603) Connecting Cable	D
Special Driver	68140-500-100	Use for X-Point Adjust / Tape path Alignment	E

A : CABLE 1	B : CABLE 2	C : CABLE 3	D : CABLE 4	E : SPECIAL DRIVER
				

4. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a) near sharp edges, b) near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c) the AC supply, and d) antenna wiring. Always inspect in all areas for pinched, out-of-place, or frayed wiring between components and the printed circuit board.
Check AC power cord for damage.

5. Components, parts and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications, Additionally, determine the cause of overheaing and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

6. Product Safety Notice
Some electrical and mechanical parts have special safety related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage,wattage etc. Parts that have special safety characteristics are identified by a (*) or (⚠) on schematics and parts list. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards.
Products safety is under review continuously and new instructions are issued whenever appropriate.

1-2. ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to appling power to the unit under test

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive foam, aluminum foil or comparable conductive material)

7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

IMPORTANT SAFETY NOTICES
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

1. GENERAL DESCRIPTION

1-1. SAFETY PRECAUTIONS

1. Before returning a Video Cassette Recorder to the customer, always make a safety check of the entire instrument, including, but not limited to the following items:

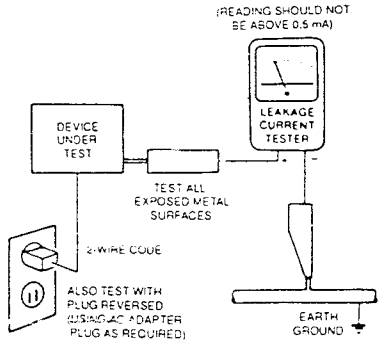
a. Be sure that no built-in protective devices are defective and/or have been defeated during servicing.

(1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience.

(2) When reassembling the instrument, be sure to put back in place all protective devices, including, but not limited to nonmetallic control knobs, insulating, fish papers adjustment and compartment covers/shields, and isolation resistor/capacitor networks.
Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning.

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contract a hazardous voltage. Such openings include, but are not limited to, (1) excessively wide cabinet ventilation slots, and (2) improperly fitted and/or incorrectly secured cabinet covers.

c. Antenna Cold Check-With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, to each of the coaxial connectors.


(READING SHOULD NOT BE ABOVE 0.5 mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND
AC Leakage Test

If the measured resistance is less than 1.0 megaohm or greater than 5.2 megaohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. Leakage Current Hot Check-With the instrument completely reassembled plug the AC line cord directly into a 220 (240V-UK) AC outlet. (Do not use an isolation transformer during this test). Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, Measure for current from a known earth ground (metal waterpipe, conduit, etc) to all exposed metal parts of the instrument (antennas, handle bracket, metal , etc), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliamp. Reverse the instrument power cord plug in the outlet and repeat test.

ANY MEASUREMENT NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR CONNECTING ANTENNA OR ACCESSORIES.

e. AC Leakage Test
Avoid shock hazards. The television instrument, accessory, or cables (s) to which this VCR (VCP) is connected should have the applicable sections of the leakage resistance antenna cold check and the leakage current hot check performed. Do not connect this VCR (VCP) to a TV antenna, cable or accessory that exhibits excessive leakage currents.

2. Read and comply with all caution and safety related notes on or inside the VCR (VCP) cabinet and chassis.

3. Design Alteration Warning-Do not alter or add to the mechanical or electrical design of this Video Cassette Recorder (Player). Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this instrument and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you,the servicer responsible for personal injury or property damage.

1-3. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENT

※ The following procedures are recommended for the replacement of the leadless components used in this unit.

1. Preparation for replacement

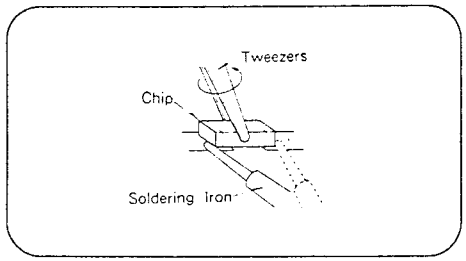
a. Soldering Iron
Use a pencil-type soldering iron that uses less than 30 watts.
b. Solder
Eutectic solder (Tin 63%, Lead 37%) is recommended.
c. Soldering time
Do not apply heat more than 4 seconds.
d. Preheating
Leadless capacitor must be preheated before installation. (130° C~150° C, for about two minutes).

Note :
a. Leadless component must not be reused after removal.
b. Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component (Resistors, Capacitors)

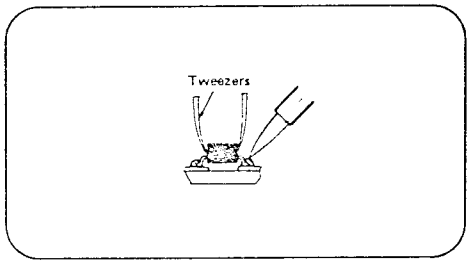
Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

Note :
a. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twising action.
b. Take care not to break the copper foil on printed board.

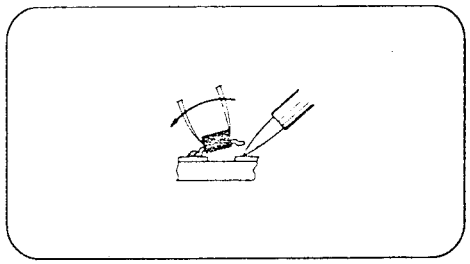


3. Removing the chip component (Transistors, Diodes)

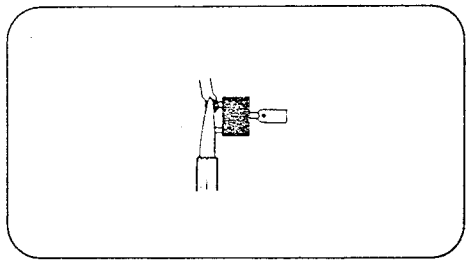
1) Melt the solder of one lead.



2) Lift the side of that lead upward.

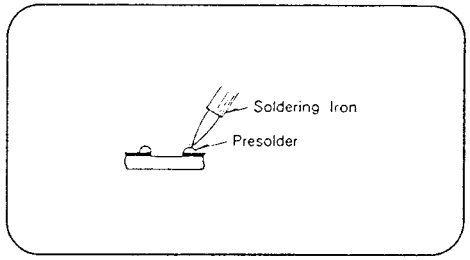


3) Simultaneously heat solder of the two remaining leads and lift part to remove.



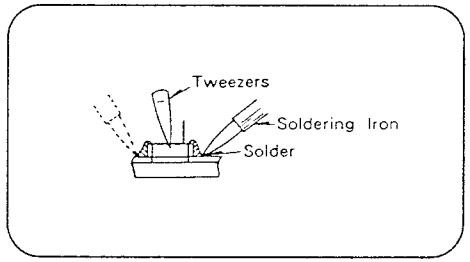
4. Installing the Leadless (chip) Component

1) Presolder the contact points of the circuit board.



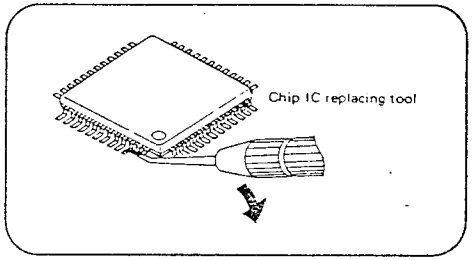
2) Press the part downward with tweezers and solder both electrodes as shown below.

Note :
Do not glue the replacement leadless component to the circuit board.



5. Removing of Flate ICs
(Recommendable manner)

1) For removing solder chips from IC's pins, use a solder remover or a wiry solder absorber.
2) Heat the IC's tips evenly by moving the chip IC replacing tool around them, and detach the IC's leads with a tool in the way of using a lever.
3) Do not reuse ICs removed once (Discard them).



1-4. HOW TO REPLACE LEADLESS (CHIP) COMPONENT

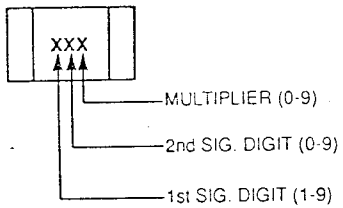
1. Check the followings before S.M.D Troubleshooting

* Cracked or Chipped Component Body
* Cracked or Separated Solder Joints
* Peeling end Terminations or Fractured Leads
* Rejection of Solder from Copper Pads or Component
* Foreign Matter on Copper Pads
* Solder Bridges

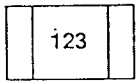
2. S.M.D (Surface Mounted Devices) Identification

1) Chip Resistor Identification

※ Standard Chip Resistor Code

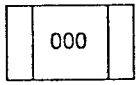


Examples



= 12 x 10^3(1000) = 12000 Ω
= 12K Ω

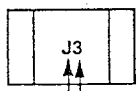
= 47 x 10^0 (1) = 47 Ω



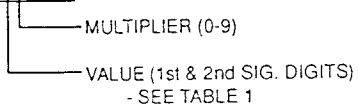
= CHIP JUMPER = 0 Ω

2) Chip Capacitor Identification

※ Standard Two Place Code



= 2.2 x 10^3 (1000)
= 2200 pF



Examples

S2 = 4.7 x 100 = 470 pF

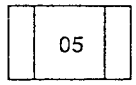
b0 = 3.5 x 1.0 = 3.5 pF

VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS					MULTIPLIER
A — 1.0	H — 2.0	b — 3.5	t — 5.0	X — 7.5	0 = × 1.0
B — 1.1	J — 2.2	p — 3.6	T — 5.1	t — 8.0	1 = × 10
C — 1.2	K — 2.4	Q — 3.9	U — 5.6	Y — 8.2	2 = × 100
D — 1.3	a — 2.5	d — 4.0	m — 6.0	y — 9.0	3 = × 1000
E — 1.5	L — 2.7	R — 4.3	V — 6.2	Z — 9.1	4 = × 10000
F — 1.6	M — 3.0	e — 4.5	W — 6.8		5 = × 100000 etc.
G — 1.8	N — 3.3	S — 4.7	n — 7.0		

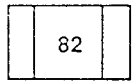
----- TABLE 1 -----

※ Alternate Two Place Code

• Values below 100 pF - Value Read Directly

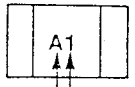


= 5 pF

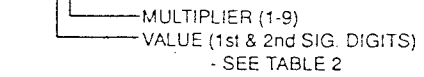


= 82 pF

• Values 100 pF and above - Letter / Number Code



= 10 x 10
= 100 pF

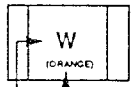


= 33 x 1000
= 33000 pF
= 0.33 uF

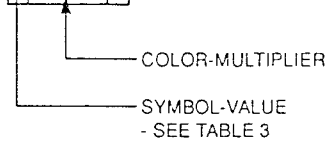
VALUE (24 VALUE SYMBOLS) - UPPERCASE LETTERS ONLY					MULTIPLIER
A — 10	F — 16	L — 27	R — 43	W — 68	1 = × 10
B — 11	G — 18	M — 30	S — 47	X — 75	2 = × 100
C — 12	H — 20	N — 33	T — 51	Y — 82	3 = × 1000
D — 13	J — 22	P — 36	U — 56	Z — 91	4 = × 10000
E — 15	K — 24	Q — 39	V — 62		5 = × 100000 etc.

----- TABLE 2 -----

※ Standard Single Place Code



= 4.7 x 1.0=4.7 pF



Examples

R (Green) = 3.3 x 100 = 330 pF

7 (Blue) = 8.2 x 1000 = 8200 pF

VALUE (33 VALUE SYMBOLS) - UPPER AND LOWER CASE LETTERS					MULTIPLIER
A — 1.0	H — 1.6	N — 2.7	V — 4.3	3 — 6.8	ORANGE = × 1.0
B — 1.1	I — 1.8	O — 3.0	W — 4.7	4 — 7.5	BLACK = × 10
C — 1.2	J — 2.0	R — 3.3	X — 5.1	7 — 8.2	GREEN = × 100
D — 1.3	K — 2.2	S — 3.6	Y — 5.6	9 — 9.1	BLUE = × 1000
E — 1.5	L — 2.4	T — 3.9	Z — 6.2		VIOLET = × 10000
					RED = × 100000

----- TABLE 3 -----

1-5. CLEANING AND LUBRICATION

1-5-1. CLEANING TAPE MECHANISM

Periodic cleaning is necessary to insure continued excellent performance of the tape mechanism. To clean the following parts, patch and solvent are available.

1. Capstan shaft.
2. All tape guide posts.
3. Clitch pulley.
4. Pinch roller.
5. Belt capstan.
6. Capstan motor pulley.

1-5-2. CLEANING OF ROTATING & STATIONARY HEADS

To clean video heads, full erase head, audio/control (A/C) head we recommend to use head cleaning kit and solvent.

> Note : When cleaning video heads, move the cleaning stick in the direction of head rotation. Wiping in a vertical direction may damage the heads.

Press a chamois cloth which has been dipped in cleaning fluid lightly against the rotaing cylinder assembly, then do the cleaning by slowly rotaing upper cylinder ass'y by hand.

> Note : Never try to clean by using the motor to turn it.

1-5-3. LUBRICATION TAPE MECHANISM

The tape transport mechanism is properly lubricated at the factory.
In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on the frequency of use and environmental conditions, periodic lubrication may be required.
When relubricating, remove old lubricant first, then sparingly apply new lubricant.(Excessive lubricant may be transferred to other assemblies causing malfunction).

Use grease on the following parts every 1,000 hours of operations. (See exploded view for location)

1. Between base pole assembly (L, R) and main base.
2. Gear escalator.
3. Gear E/J drive.
4. Gear loading L, R.
5. Slide main.
6. Lever tension control.
7. Lever shift.

Oil may be required for the following parts after 1,000 hours of operation.(See exploded view for location)

Main base
1. Arm tension molding.
2. Shaft reel disk L, R molding.
3. Shaft gear relay T, S1, S2, S3 molding.
4. Shaft clutch
5. Shaft gear review.

Other parts which are not listed above do not be required lubrication, except when parts are replaced.
Use appropriate oil or grease as indicated on exploded view.

1-6. ABBREVIATIONS

X2	: Double
4.43MHz	: Color Sub Carrier
ACC	: Automatic Color Circuit
ACK	: Automatic Color Killer
ADD	: Adder
AFC	: Automatic Frequency Control
AFT	: Automatic Fine Tuning
AGC	: Automatic Gain Control
ALC	: Automatic Level Control
AMP	: Amplifier
APC	: Automatic Phase Control
AUX	: Auxiliary
BATT	: Battery
BD	: Burst Deemphasis
BE	: Burst Emphasis
BH	: Power Supply for Selecting VHF High Band
BL	: Power Supply for Selecting VHF Low Band
BPF	: Band Pass Filter
C.FG	: Capstan Frequency Generator
C.SYNC	: Composite Sync
CAFC	: Capstan Auto Frequency Control
CAPC	: Capstan Auto Phase Control
CATV	: Cable TV
CAR	: Carrier
CAP	: Capstan
CCD	: Charge Coupled Device
CH	: Channel
CHAR.	: Character
CHROMA	: Chrominance
CM	: Capstan Motor
COMP	: Comparator
CST	: Cassette
C-ERR	: Capstan Error
CTL	: Control
C.PG	: Capstan Pulse Generator
CUR.EMPH	: Current Emphasis
D.FG	: Drum Frequency Generator
D.O.C	: Drop Out Compensator
D.PG	: Drum Pulse Generator
D/A	: Digital-to-Analog
D/C	: Dark/Clip
D.AFC	: Drum Auto Frequency Control
D.APC	: Drum Auto Phase Control
DE-EMPH	: De-Emphasis
DET	: Detector
DEV	: Deviation
DLYD	: Delayed
DM	: Drum Motor
DEMOD	: Demodulator
D.D	: Direct Drive
E-E	: Electronic-to Electronic
EMPH	: Emphasis
ENV	: Envelope
EQ	: Equalizer
EPS	: Easy Programming System
F.ADV	: Frame Advance
F-V	: Frequency to Voltage Converter
F.FWD	: Fast Forward
FH	: Frequency Horizontal
FG	: Frequency Generator
FM	: Frequency Modulator
FSC	: Frequency Sub Carrier
FWD	: Forward
FC	: Frequency Center
FL	: Frequency Low
GEN	: Generator
GND	: Ground
HPF	: High Pass Filter
IF	: Intermediate Frequency
IR	: Infrared Receiver
LED	: Light Emitting Diode
LIM	: Limiter
LPF	: Low Pass Filter
LUMA	: Luminance
LCD	: Liquid Crystal Display
LNR	: Linear
MIX	: Mixer
MM	: Monostable Multivibrator
MTS	: Multi Channel TV Sound
MEM	: Memory
MFT	: Manual Fine Tuning
N.C	: No Connection

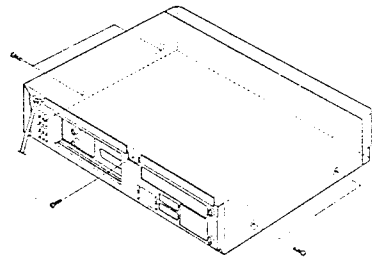
OSC	: Oscillator
OTR	: One Touch Recording
OSP	: On Screen Programme
OSD	: On Screen Display
PB	: Play Back
P.C	: Power Control
PG	: Pulse Generator
PIF	: Picture Intermediate Frequency
PLL	: Phase Lock Loop
PRG	: Programme
PWM	: Pulse Width Modulation
PWR	: Power
P/S	: Pause/Still
PD	: Power Detector
REG	: Regulator
REC	: Record
REC.SAF	: Record Safety
REW	: Rewind
RF	: Radio Frequency
REV	: Reverse
RECT	: Rectifier
REF	: Reference
SC	: Simul-Cast
SC	: Sub-Carrier
SCK	: Shift Clock
SDA	: Serial Data
SIF	: Sound Intermediate Frequency
S.M.D	: Surface Mounted Devices
S.M.P.S	: Switching Mode Power Supply
SP	: Standard Play
SW25Hz	: Head Switching Pulse
SYNC	: Synchronizing Signal
SYSCON	: System Control
STB	: Strobe
SI	: Serial Input
SO	: Serial Output
SW	: Switch
TP	: Test Point
TRK	: Tracking
UL	: Unloading
VT	: Voltage Tuning
VLP	: Vertical Lock Pulse
V-REF	: Voltage Reference
V-SYNC	: Vertical Sync
VCO	: Voltage Controlled Oscillator
VCR	: Video Cassette Recorder
VIF	: Video Intermediate Frequency
VPS	: Video Programming System
VHS	: Video Home System
VXO	: Voltage Controlled Crystal Oscillator
VSS	: Voltage Super Source
VISS	: VHS Index Search System
W/C	: White /Clip
W/D	: White/Dark
Y/C	: Luminance/Chrominance
uP	: Microprocessor

2. DISASSEMBLY

2-1. INSTRUMENT DISASSEMBLY

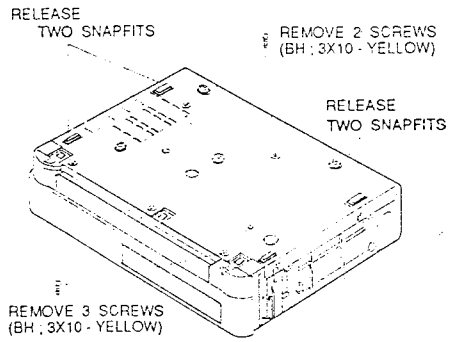
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.

2-1-1. Top Cabinet Removal

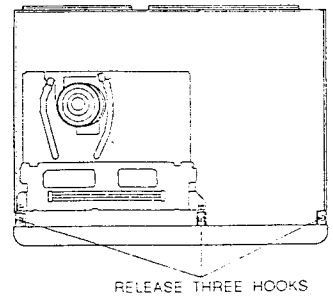


REMOVE 5 SCREWS
(BH ; 2-4X16 - BLACK)

2-1-2. Bottom Cover Removal

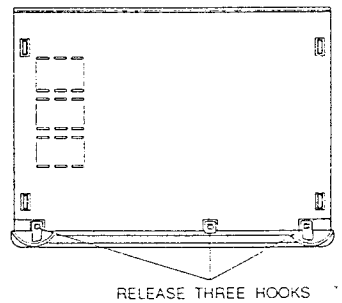


2-1-3. Front Panel Removal



RELEASE THREE HOOKS

(Top View)



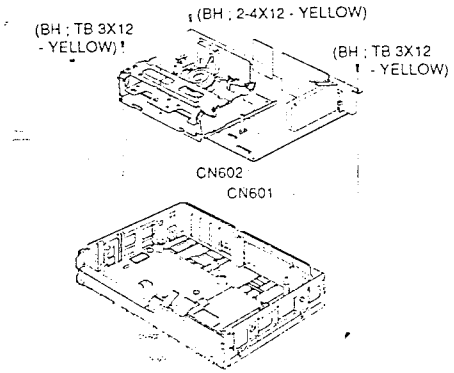
RELEASE THREE HOOKS

(Bottom View)

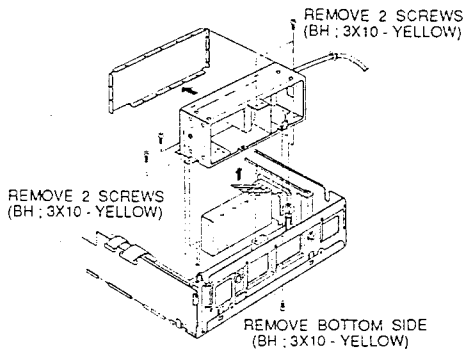
2-2. CIRCUIT BOARD DISASSEMBLY

Note :
1. When removing chassis unit assembly, take extreme care not to damage the Main PCB front.
2. When reinstalling Deck on the Main PCB, take extreme care not to damage sensor.

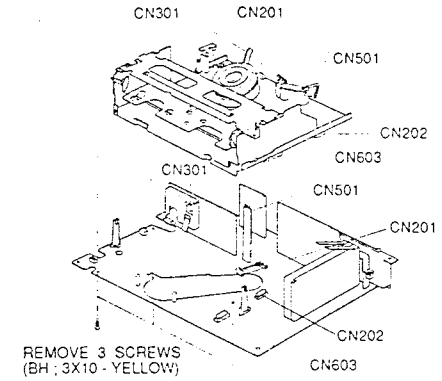
2-2-3. Chassis Unit Removal



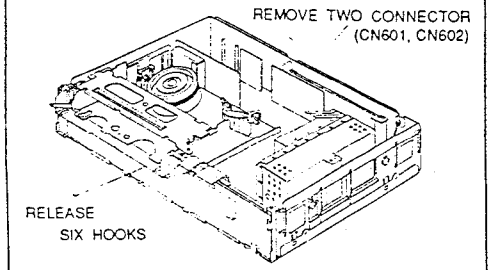
2-2-1. Regulator Ass'y Removal



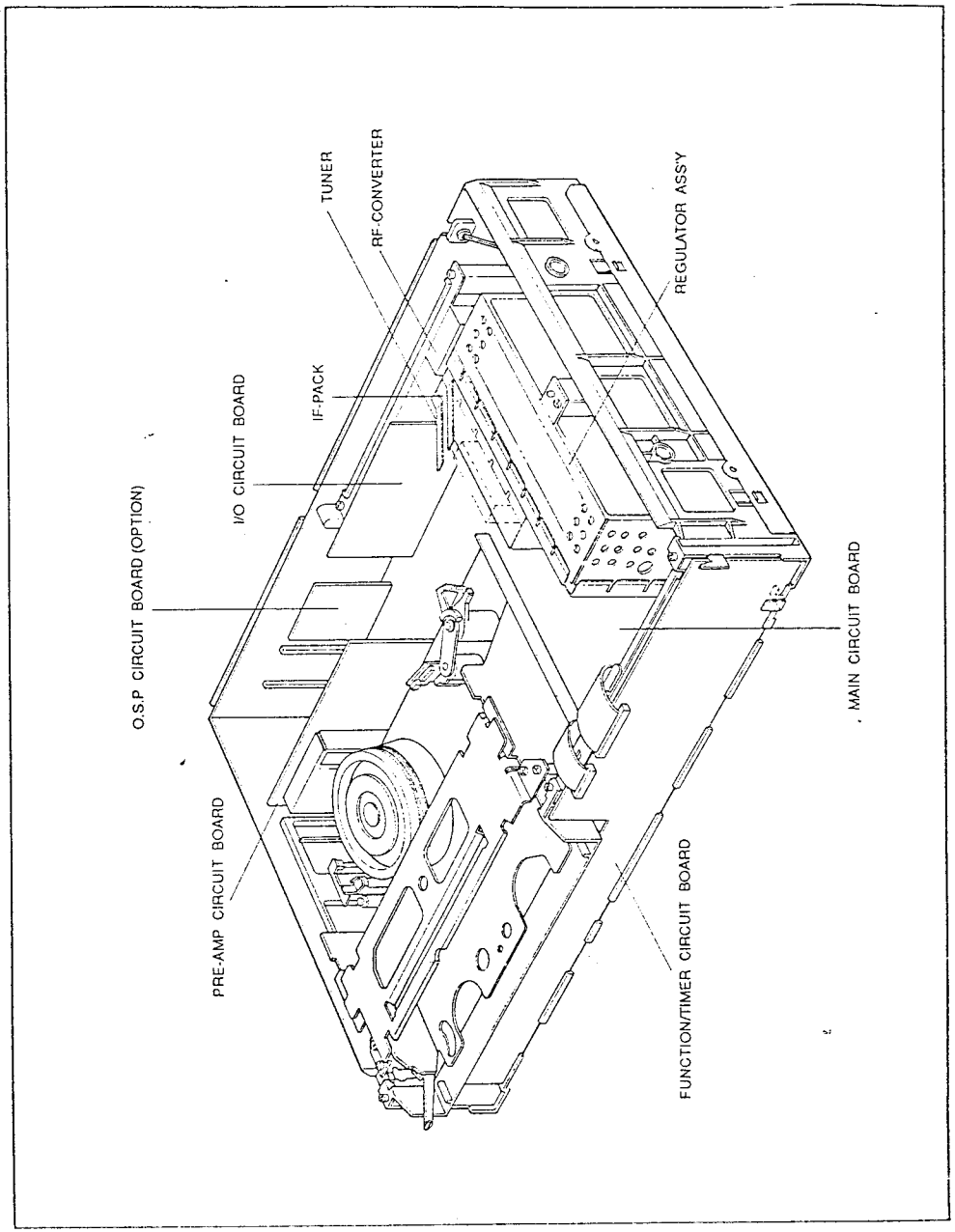
2-2-4. Main Circuit Board Removal



2-2-2. Function/Timer Circuit Board Removal



* Circuit Boards Location



2-3. TAPE TRANSPORT MECHANISM IDENTIFICATION

2-3-1. Top View

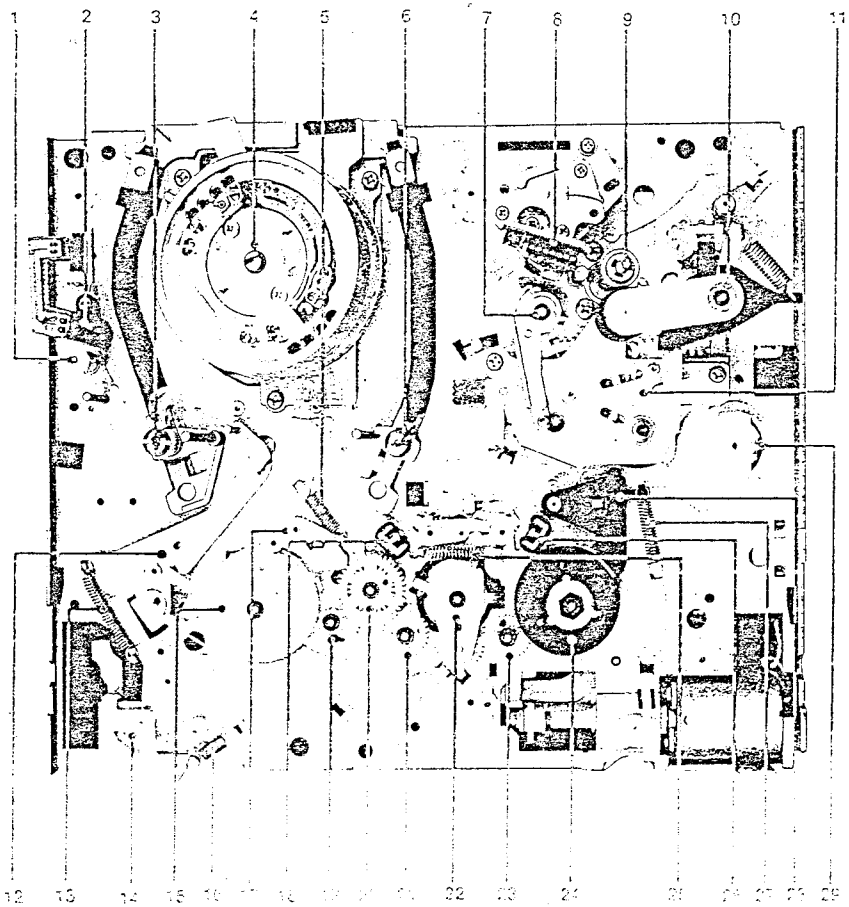


Fig. 1 Tape Transport Mechanism - Top View

1. SUPPLY ROLLER
2. F/E HEAD ASS'Y
3. P.B & G.R (L)
4. CYLINDER ASS'Y
5. S/P BRAKE SUB "L"
6. P.B & G.R (R)
7. REVIEW ARM ASS'Y
8. A/C HEAD ASS'Y
9. CAPSTAN SHAFT
10. PINCH ROLLER UNIT
11. UNIT DRIVE PINCH
12. ARM TENSION ASS'Y
13. SPRING TENSION
14. LEVER REC S/W
15. REEL DISK "L"
16. S/P RECORD S/W
17. BRAKE SUB "L"
18. BRAKE MAIN "L" ASS'Y
19. GEAR RELAY S3
20. GEAR RELAY S2
21. GEAR RELAY S1
22. IDLER SUB ASS'Y
23. GEAR RELAY "T"
24. REEL DISK "R"
25. S/P BRAKE MAIN
26. BRAKE MAIN "R" ASS'Y
27. S/P BRAKE SUB "R"
28. BRAKE SUB "R" ASS'Y
29. GEAR EJECT DRIVE

2-3-2. Bottom View

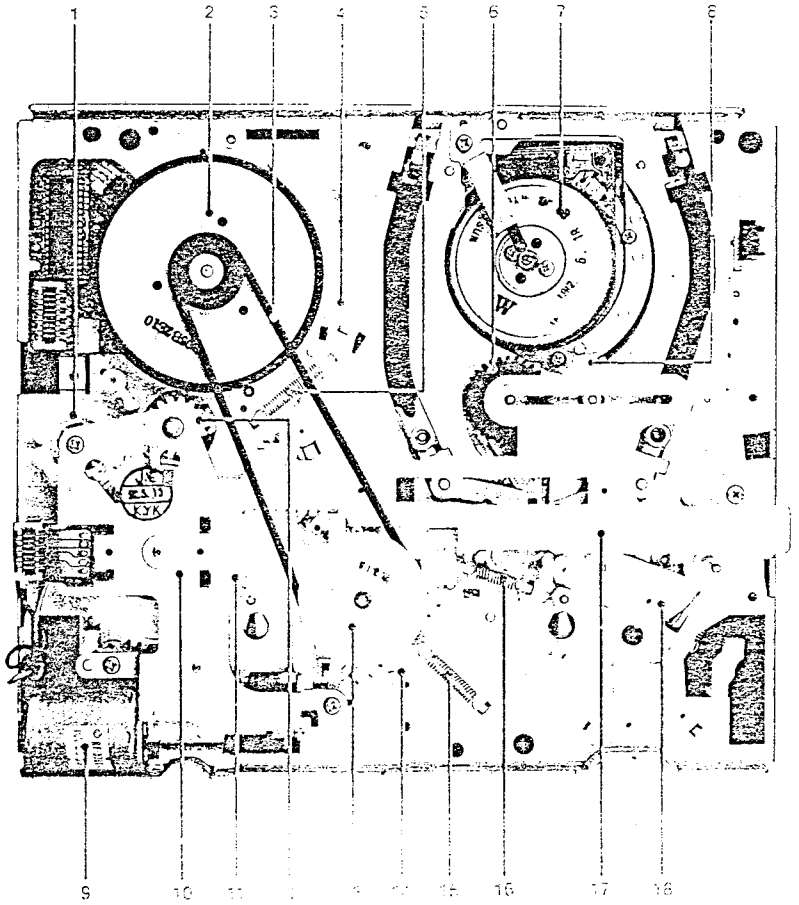


Fig. 2 Tape Transport Mechanism - Bottom View

1. GEAR EJECT DRIVE
2. MOTOR D/D CAPSTAN
3. BELT CAPSTAN
4. BRAKE D/D CAPSTAN
5. S/P BRAKE CAPSTAN
6. GEAR LOADING "R"
7. CYLINDER MOTOR
8. GEAR LOADING "L"
9. MOTOR LOADING
10. LOADING UNIT ASS'Y
11. GEAR MASTER
12. GEAR RELAY PINCH
13. CLUTCH ASS'Y
14. LEVER SHIFT
15. S/P BRAKE SUB "R"
16. S/P RELEASE BRAKE
17. SLIDE MAIN
18. LEVER TENSION CONTROL

2-4. HOUSING ASS'Y REMOVAL & REASSEMBLY

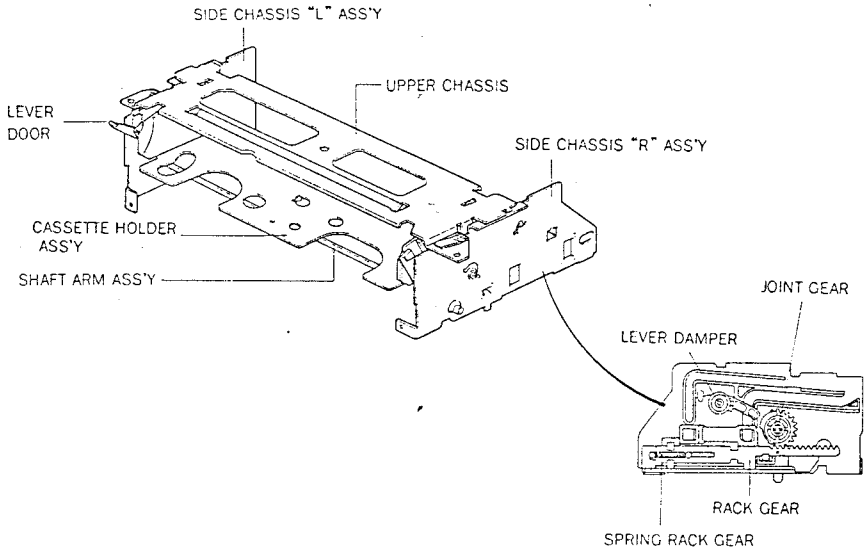


Fig. 3 Housing Ass'y Identification

2-4-1. Housing Ass'y Removal

1. Remove four (4) screws ①, ②.
2. Lift up the housing ass'y in the direction of arrow.

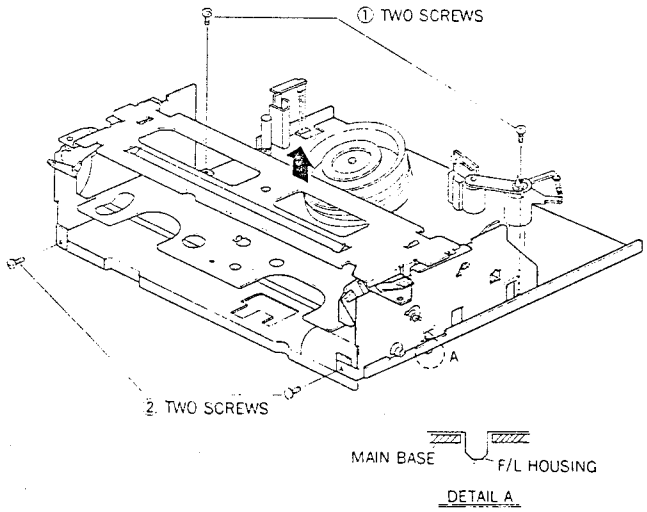


Fig. 4 Housing Ass'y Removal

2-4-2. Cassette Holder Ass'y & Side Chassis "L", "R" Removal

1. Remove two (2) screws ①.
2. Lift up the upper chassis ② and the cassette holder ass'y ③ in the direction of arrow (A).
3. Remove the side chassis "L", "R" ④, ⑤ from the shaft arm ass'y in the direction of arrows (B).

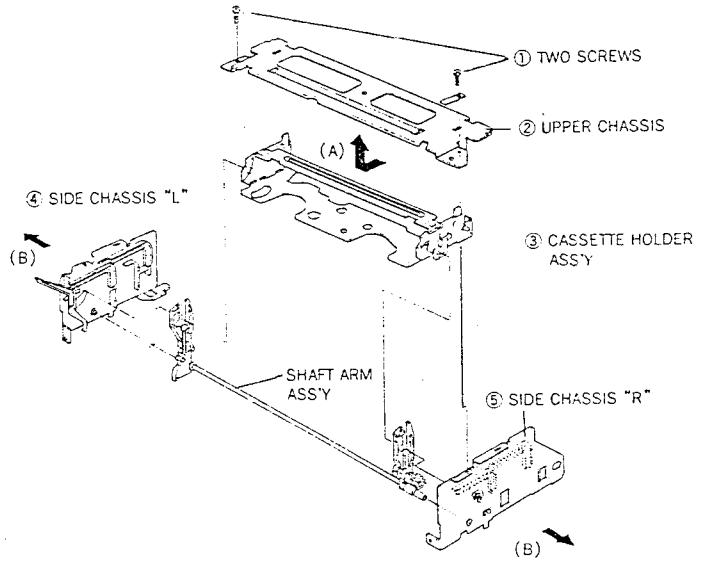


Fig. 5 Cassette Holder Ass'y & Side Chassis "L", "R" Removal

2-4-3. Joint Gear & Rack Gear Removal

1. Pull the rack gear ① in the direction of arrow (A) to the end.
2. Remove one screw ② and then the joint gear ③.
3. Remove the rack gear ① toward arrow (B).

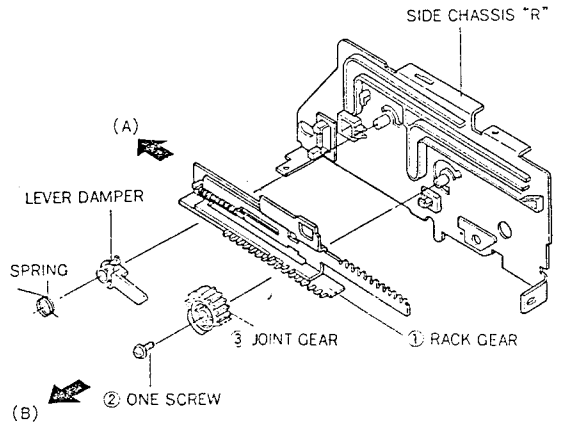


Fig. 6 Joint Gear & Rack Gear Removal

2-4-4. Reinstallation of Rack Gear and Joint Gear

Reinstallation and Timing of Rack Gear and Joint Gear

1. Assemble the rack gear ① to the side chassis "R".
2. Pull the rack gear ① in the direction of arrow to the end.
3. Install the joint gear so that the slot #1 of joint gear ② is aligned with the tooth #1 of rack gear ①.

Note : When timing is correct the key-way will fit into the notch automatically.

4. Tighten one (1) screw with the joint gear.

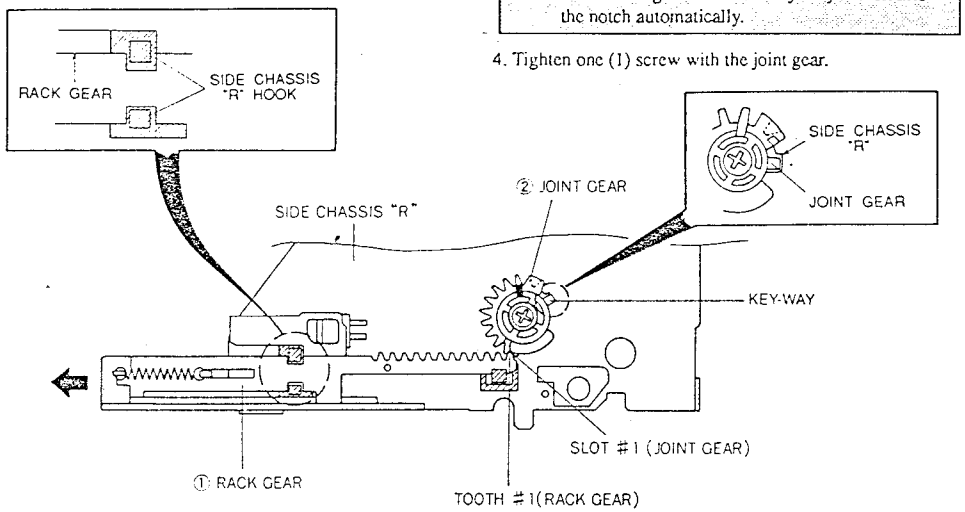


Fig. 7 Reinstallation and Timing of Rack Gear and Joint Gear

Timing Confirmation of Rack Gear and Joint Gear (Eject mode)

1. Push the rack gear ① in the direction of arrow to the end.
2. Make sure that the tooth #12 of joint gear ② and the Timing Point of rack gear ① are aligned correctly as shown in Fig. 8.

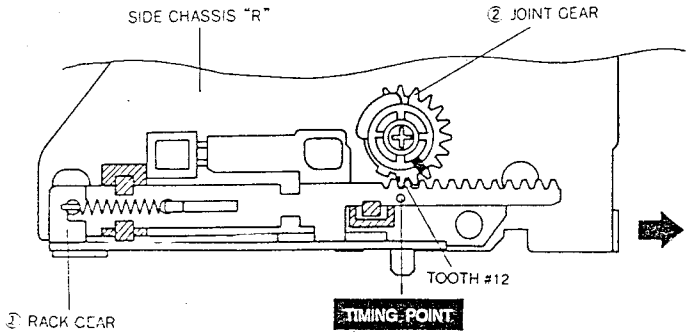


Fig. 8 Timing Confirmation of Rack Gear and Joint Gear

2-4-5. Reassembly of Housing Ass'y

1. After pushing the rack gear in direction of arrow to the end, insert the pin of the arm gear into the hole of side chassis "R".
2. Align the slot #1 (arrow mark) of the arm gear ① with the tooth #3 of the joint gear ②. (Refer to timing in Fig. 9)
3. Install the side chassis "L" so that the shaft arm pin goes into the hole in the side chassis "L".
4. Turn the shaft arm to up-position and drop the cassette holder into the arm grooves.
5. Install the upper chassis and secure with two (2) screws.

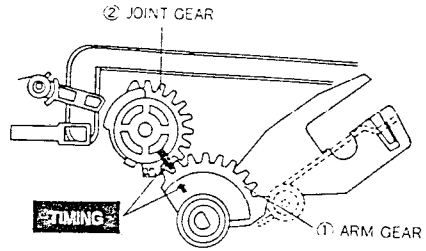
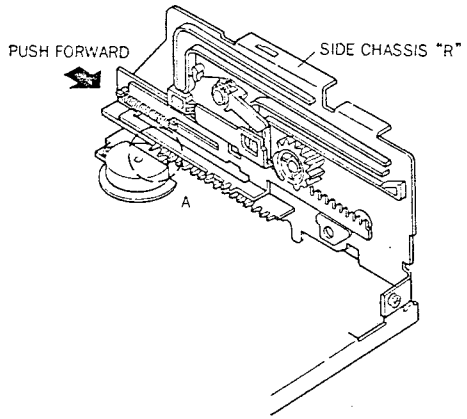


Fig. 9 Reassembly Joint Gear & Arm Gear

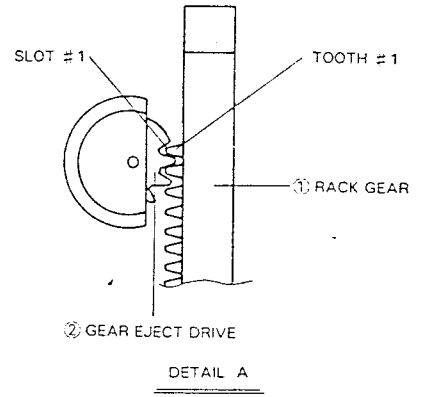
2-4-6. Reinstallation of Housing Ass'y & Deck Ass'y

Note : Make sure deck is in the eject position.

1. Assemble the housing ass'y while pushing the rack gear forward to align the slot #1 of gear eject drive ② and the tooth #1 of rack gear ①. (Refer to Detail A)
2. Install the housing ass'y and then tighten four (4) screws (See Fig. 4)



(SIDE VIEW)



(TOP VIEW)

Fig. 10 Reinstallation of Housing Ass'y

2-5. CYLINDER ASS'Y REMOVAL & REASSEMBLY

2-5-1. Cylinder Ass'y Removal from Main Base

1. Release the F.P.C cable ① from Pre-Amp PCB (CN301) and disconnect the lead connector ass'y ② from the cylinder PCB.
2. Remove three (3) screws ③ securing the base cylinder and the main base.
3. Lift the cylinder ass'y ④ in the direction of arrow.

CAUTION : Take extreme care when removing the cylinder ass'y. Do not touch the video head tips during servicing.

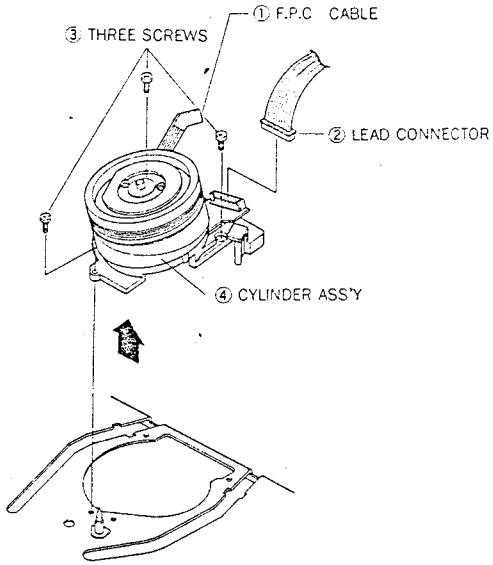


Fig. 11 Cylinder Ass'y Removal

2-5-2. Exploded View of Cylinder Ass'y

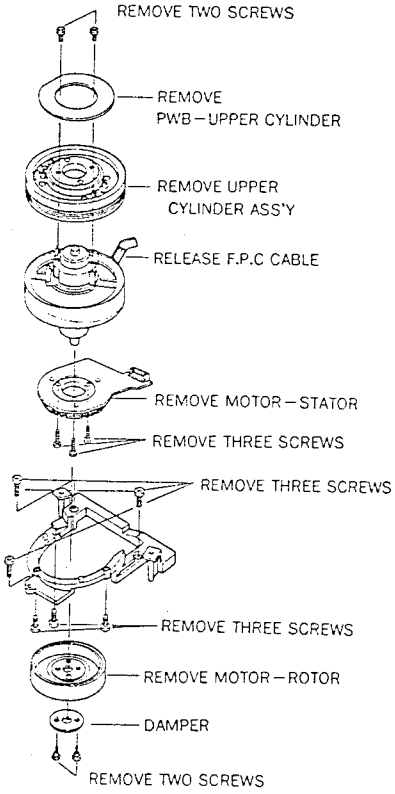


Fig. 12 Exploded View of Cylinder Ass'y

2-5-3. Upper Cylinder Ass'y Removal

1. Remove two (2) screws ① from the upper cylinder ass'y ③.
2. Unsolder the PWB-Upper cylinder ② from the upper cylinder ass'y ③ and remove the upper cylinder ass'y ③ from the cylinder ass'y. (See Fig. 14)

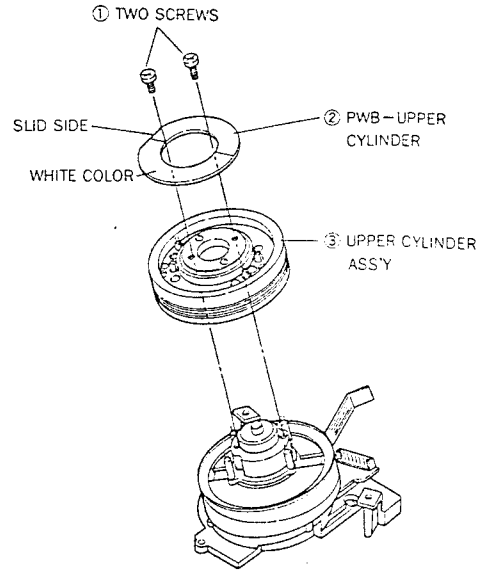


Fig. 13 Upper Cylinder Ass'y Removal

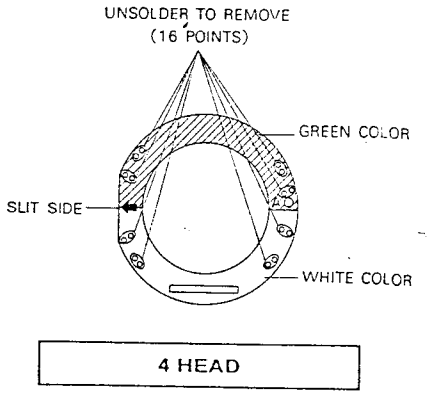


Fig. 14 PWB Upper Cylinder Top View

2-5-4. Lower Cylinder Ass'y Removal

1. Remove three (3) screws ① from the base cylinder ②.
2. Lift up the lower cylinder ass'y ③ from the base cylinder ②.

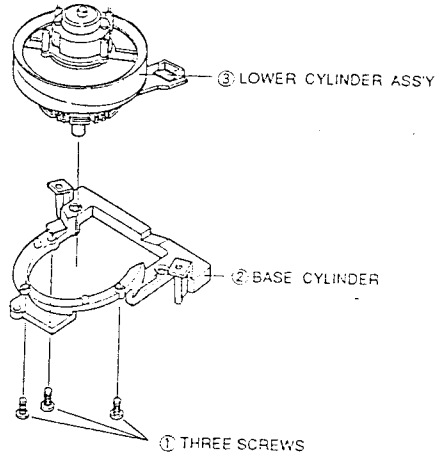
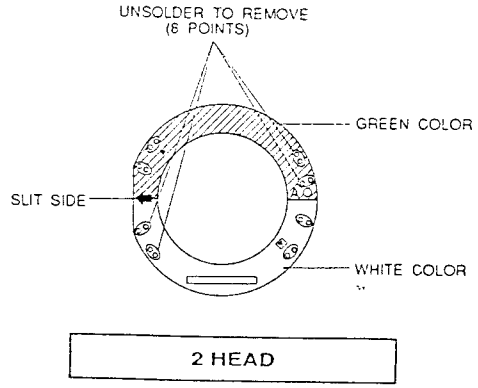


Fig. 15 Lower Cylinder Ass'y Removal



2-5-5. Cylinder Motor Removal

1. Remove three (3) screws ① from the base cylinder ②.
2. Remove two (2) screws ③ from the damper ④,then remove the damper ④ and the motor-rotor ⑤.
3. Remove three (3) screws ⑥ from the motor-stator ⑦ and take it out.

Note : Mark rotor position to insure correct phase orientation upon reinstallation.

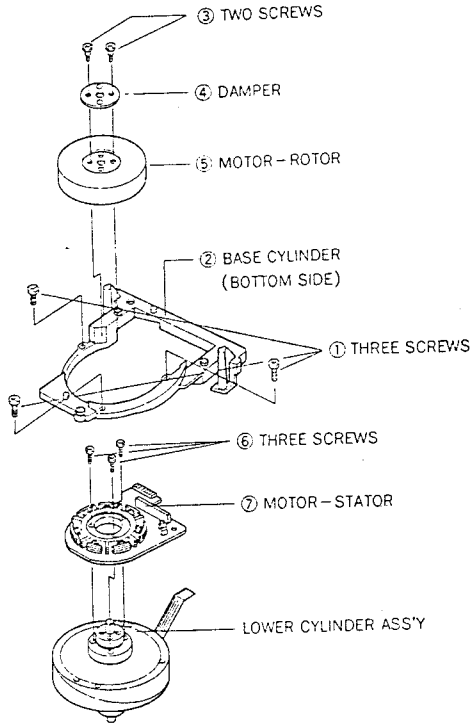


Fig. 16 Cylinder Motor Removal

2-5-6. Assembly of Lower Cylinder

1. Tighten three (3) screws with the motor-stator. (Refer to Fig. 16)
2. Reinstall the motor-rotor, damper and secure with two (2) screws. (Refer to Fig. 16)

Note : Make sure that the hole of bush cylinder on lower cylinder and the hole of motor rotor are aligned correctly as shown in Fig. 17.

3. Reinstall the lower cylinder to the base cylinder and secure with three (3) screws.

Note : Align two (2) base cylinder pin before reinstalling.

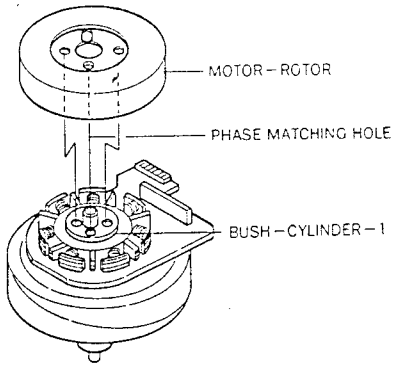


Fig. 17 Bush Cylinder -1 & Motor Rotor Timing

2-5-7. Assembly of Upper Cylinder

1. When installing the upper cylinder, make sure green color (CH1) goes to CH1 head tip position on lower cylinder.
2. Tighten two (2) screws on the upper cylinder. (Refer to Fig. 13)

Note : Timing of the upper cylinder PCB.

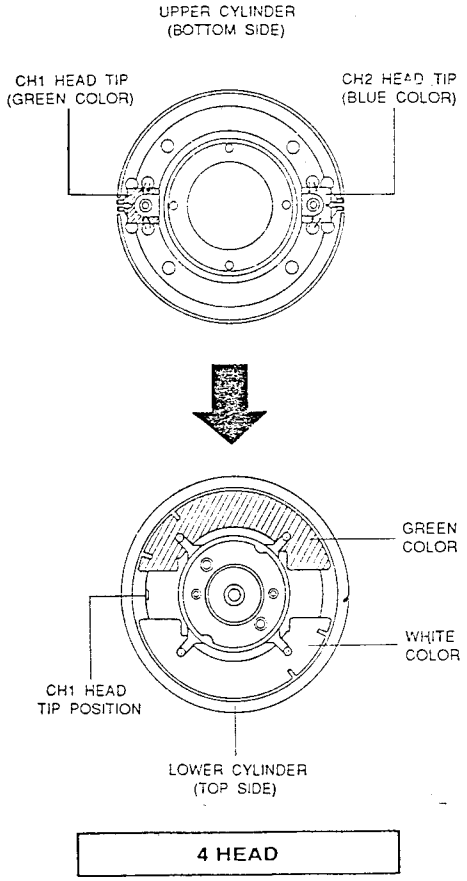
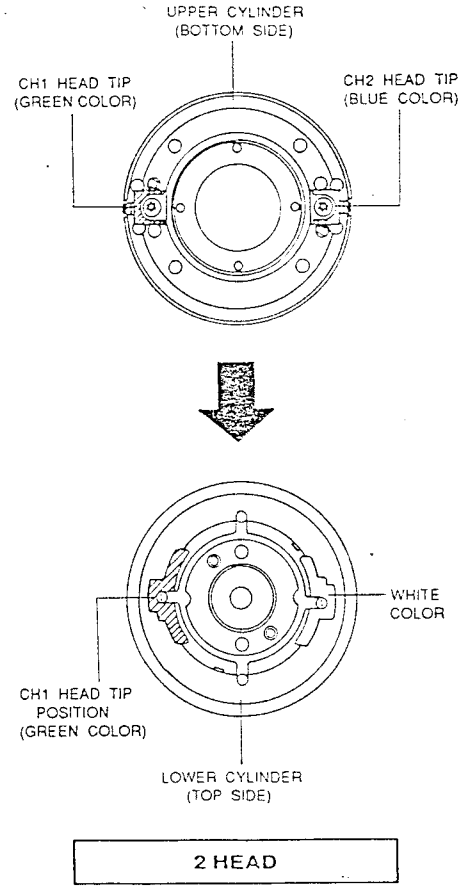


Fig. 18 Upper Cylinder Ass'y Timing

2-5-8. Assembly of Cylinder Ass'y

1. Reinstall cylinder ass'y on the main base.
2. Tighten three (3) screws securing the base cylinder and the main base.
3. Reconnect F.P.C cable to the Pre-Amp PCB and the lead connector ass'y to the bottom cylinder PCB.


UPPER CYLINDER (BOTTOM SIDE)
CH1 HEAD TIP (GREEN COLOR)
CH2 HEAD TIP (BLUE COLOR)
WHITE COLOR
CH1 HEAD TIP POSITION (GREEN COLOR)
LOWER CYLINDER (TOP SIDE)
2 HEAD

2-6. REEL DISK ASS'Y REMOVAL

2-6-1. Brake Sub "L" Removal

1. Remove the spring brake sub "L" ①.
2. Lift up the brake sub "L" ② while pushing the clip brake sub"L" ③ in the direction of arrow.

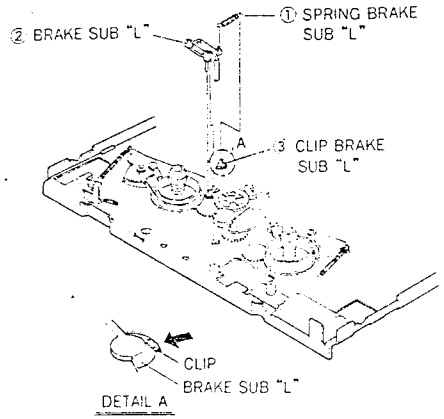


Fig. 19 Brake Sub "L" Removal

2-6-2. Gear Relay S2 & S1 Removal

1. Remove the washer slits ①.
2. Lift up the gear relay S2 ② and S1 ③.

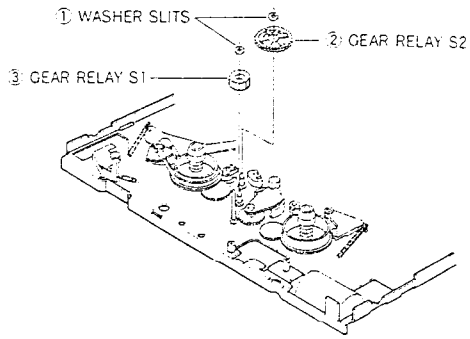


Fig. 20 Gear Relay S2 & S1 Removal

2-6-3. Full Arm Tension Ass'y Removal

1. Take off the spring tension ①.
2. Push the pin arm tension ② releasing the clip in the direction of arrow (Bottom View).
3. Lift up the full arm tension ass'y ③.

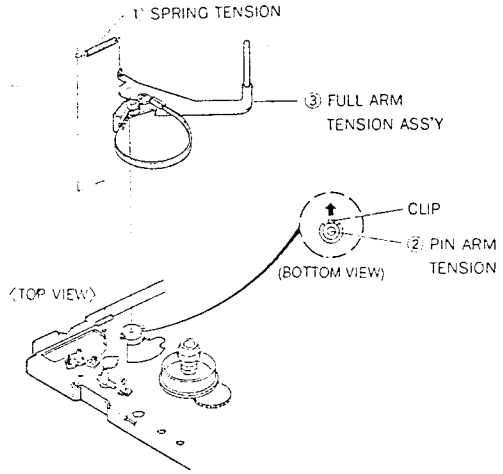


Fig. 21 Full Arm Tension Ass'y Removal

2-6-4. Reel Disk "L" Ass'y & Gear Relay S3 Removal

1. Remove the washer slit (A) ①.
2. Lift up the reel disk "L" ass'y ② and the washer plain③.
3. Remove the washer slit (B) ④.
4. Lift up the gear relay S3 ⑤.

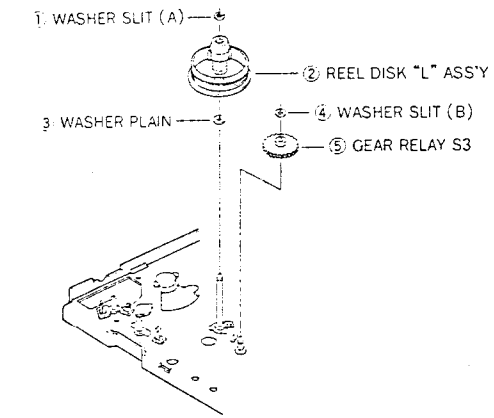


Fig. 22 Reel Disk "L" Ass'y & Gear Relay S3 Removal

2-6-5. Brake Sub "R" Ass'y Removal

1. Remove the spring brake sub "R" ①.
2. Lift up the brake sub "R" ass'y ② while pushing the clip brake sub "R" ③ in the direction of arrow.

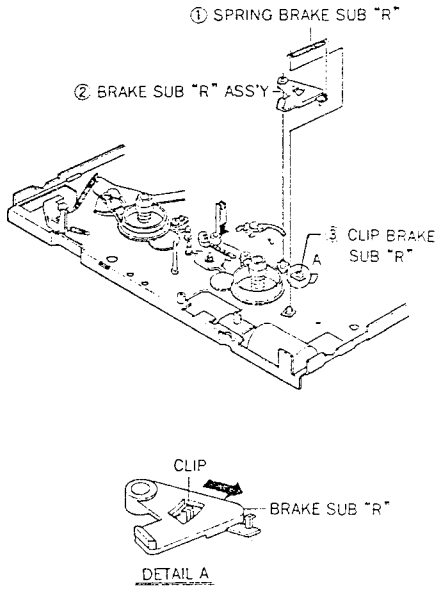


Fig. 23 Brake Sub "R" Ass'y Removal

2-6-6. Brake Main "L" & "R" Ass'y Removal (Fig. 24)

1. Remove the spring brake main ①.
2. Lift up the brake main "L" ass'y ② while pushing the clip in the direction of arrow (A). (Detail A)
3. Lift up the brake main "R" ass'y ③ while pushing the clip in the direction of arrow (B). (Detail B)

2-6-7. Reel Disk "R" Ass'y & Gear Relay "T" Removal (Fig. 25)

1. Remove the washer slit (A) ①.
2. Lift up the reel disk "R" ass'y ②.
3. Lift up the washer plain ③.
4. Remove the washer slit (B) ④.
5. Lift up the Gear Relay "T" ⑤.

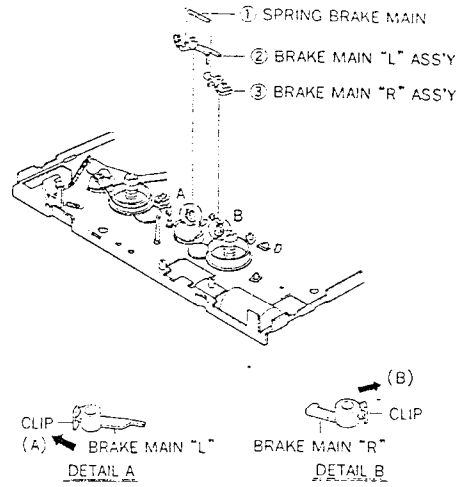


Fig. 24 Brake Main "L" & "R" Ass'y Removal

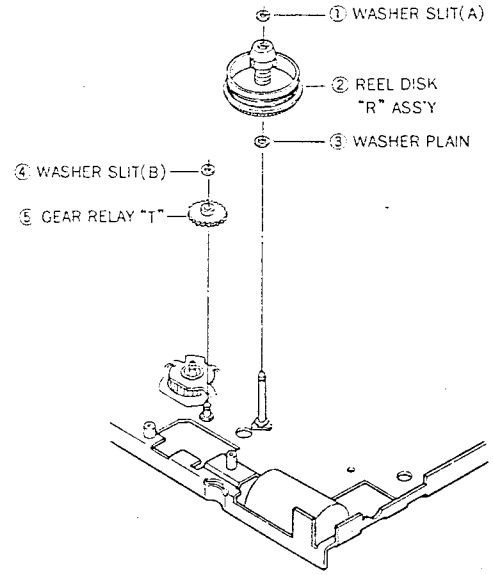


Fig. 25 Reel Disk "R" Ass'y & Gear Relay "T" Removal

2-6-8. Idler Sub Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the idler sub ass'y ②.

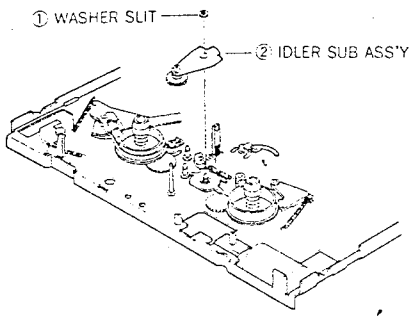


Fig. 26 Idler Sub Ass'y Removal

2-6-9. Lever REC S/W Removal

1. Remove the spring record S/W ①.
2. Lift up the lever record S/W ② while pushing the clip in the direction of arrow.

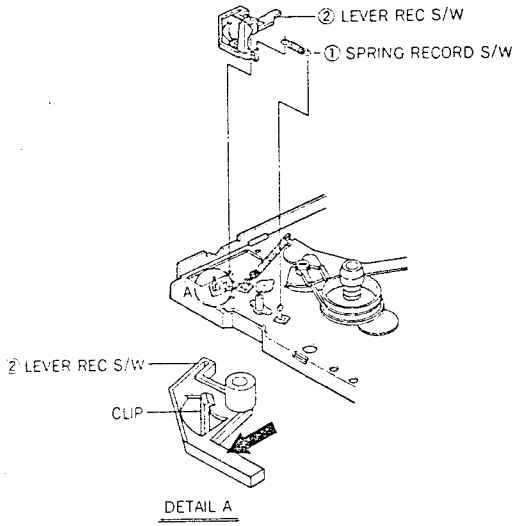


Fig. 27 Lever REC S/W Removal

2-7. LOADING & CAPSTAN MOTOR ASS'Y REMOVAL & REASSEMBLY

2-7-1. Belt Capstan Removal

1. Remove the belt capstan ①.

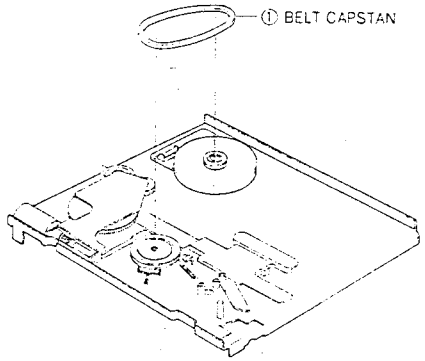


Fig. 28 Belt Capstan Removal

2-7-2. Motor D/D Capstan Removal

1. Remove three (3) screws ①. (Top View)
2. Lift up the motor D/D capstan ②. (Bottom View)

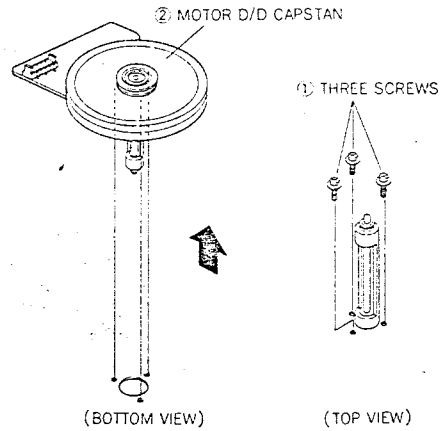


Fig. 29 Motor D/D Capstan Removal

2-7-3. Clutch Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the clutch ass'y ②.
3. Remove the washer plain ③.

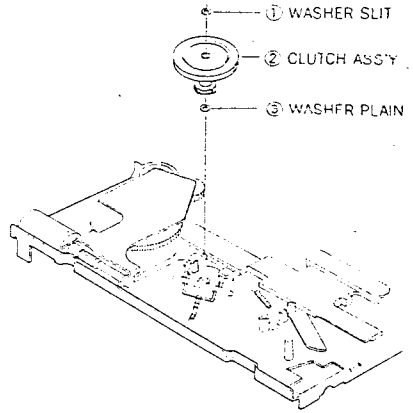


Fig. 30 Clutch Ass'y Removal

2-7-4. L/D Unit Ass'y & Gear Eject Drive Removal

1. Remove three (3) screws ① holding the loading unit ass'y ②.
2. Lift up the loading unit ass'y ②.
3. Lift up the gear eject drive ③.

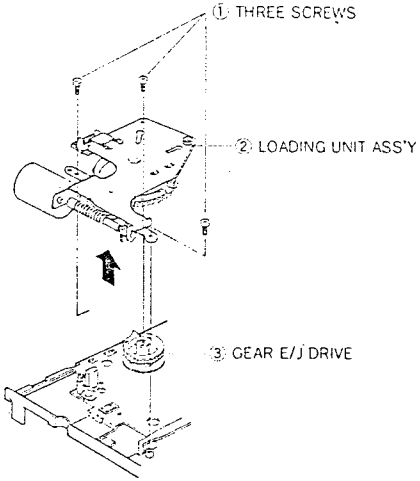


Fig. 31 L/D Unit Ass'y & Gear Eject Drive Removal

2-7-5. Slide Main Removal

1. Remove the screw ① and washer slit ②.
2. Release the clip ③ holding the slide main ④ and then lift up the slide main ④.

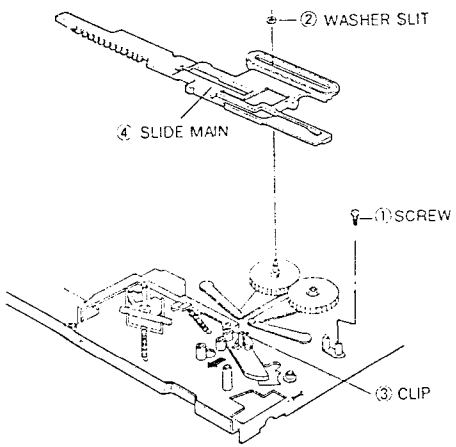


Fig. 32 Slide Main Removal

2-7-6. Brake D/D Capstan Ass'y Removal

1. Remove the spring brake capstan ①.
2. Turn the brake D/D capstan ass'y ③ clockwise and then lift up it while pushing clip in the direction of arrow.

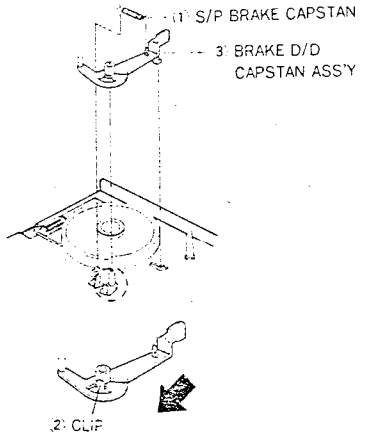
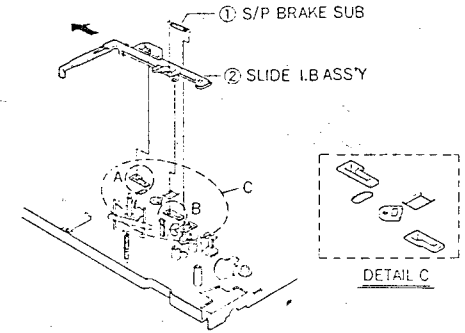


Fig. 33 Brake D/D Capstan Ass'y Removal

2-7-7. Slide I.B Ass'y Removal

1. Remove the spring brake sub ①.
2. Lift up the slide I.B ass'y ② while pushing the slide I.B ass'y ② to the end of the slot in the direction of arrow.



Note : These two slots are the reason why you must push I.B ass'y in the direction of arrow.

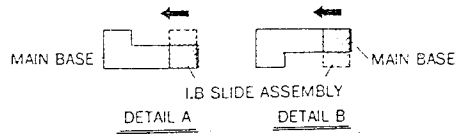


Fig. 34 Slide I.B Ass'y Removal

2-7-8. Lever Shift Removal

1. Remove the spring lever shift ①.
2. Lift up the lever shift ②.

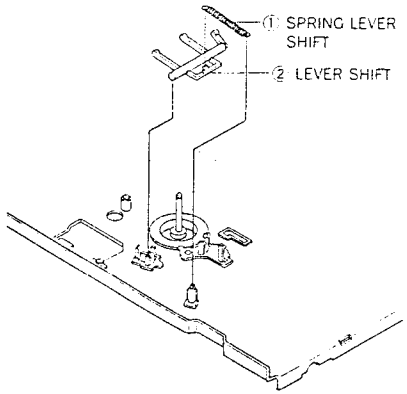


Fig. 35 Lever Shift Removal

2-7-9. Lever Tension Control Removal

1. Lift up the lever tension control ①.

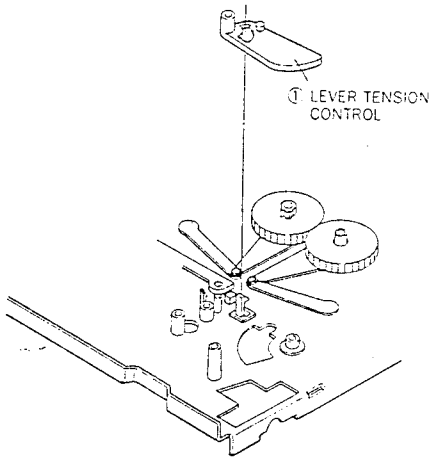


Fig. 36 Lever Tension Control Removal

2-7-10. Gear Loading "L", "R" Ass'y Removal

1. Lift up the gear loading "R" ass'y ①.
2. Lift up the gear loading "L" ass'y ③ while pushing the gear loading "L" clip ② in the direction of arrow.

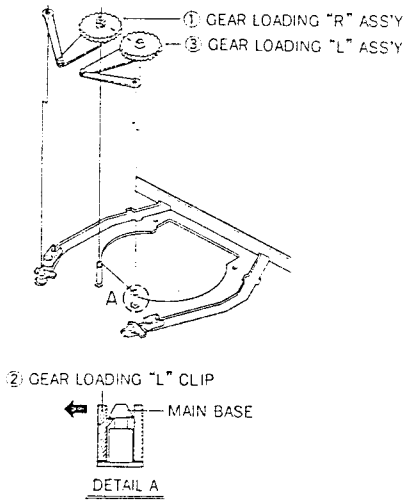


Fig. 37 Gear Loading "L", "R" Ass'y Removal

2-7-11. Review Arm Ass'y Removal

1. Remove the washer slit ①.
2. Lift up the full review arm ass'y ②.

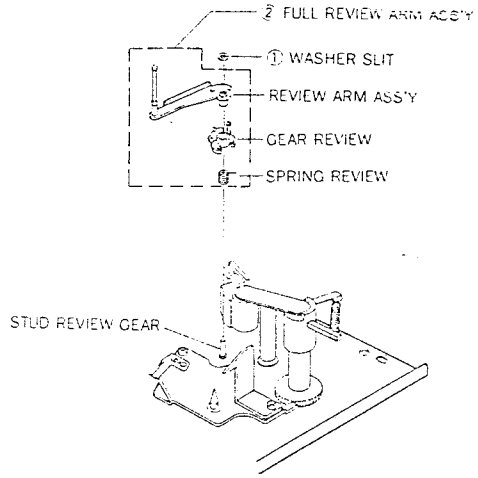


Fig. 38 Review Arm Ass'y Removal

2-7-12. Drive Cam Pinch Ass'y Removal

1. Remove two (2) screws ①.
2. Lift up the drive cam pinch ass'y ②.

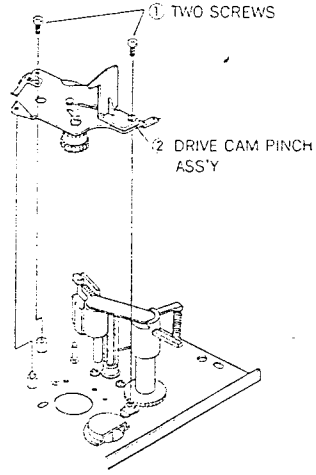


Fig. 39 Drive Cam Pinch Ass'y Removal

2-7-13. Pinch Roller Unit & Gear Escalator Removal

1. Remove the spring pinch roller ①.
2. Remove the washer slit ②.
3. Lift up the arm pinch ass'y ③.
4. Lift up the holder escalator ④ and the gear escalator ⑤.

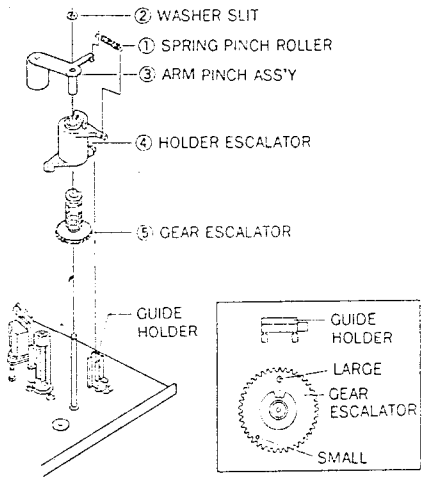


Fig. 40 Pinch Roller Unit & Gear Escalator Removal

2-7-14. Reassembly of Unit Drive Pinch Ass'y and Gear Escalator

1. Align the hole of the bracket pinch drive ① with the hole of the gear cam drive ②.
   (Refer to timing (A) in Fig. 41)
2. Align the hole of the bracket pinch drive ① with the hole of the gear cam pinch ③.
   (Refer to timing (B) in Fig. 41)
3. Align the protrusion on the side of the gear relay pinch ④ with the hole of the gear cam drive ②.
   (Refer to timing (C) in Fig. 41)
4. Install the gear escalator on the shaft and align the holes.
   (Refer to timing in Fig. 40)
5. While installing align the arrow mark of the gear cam pinch ③ with the hole of the gear escalator ⑤.
   (Refer to timing (D) in Fig. 42)
6. When aligning the timing (D), be sure to line up the timing (A), (B), (C).
7. Install the two (2) screws.

Bottom View of Drive Pinch Ass'y

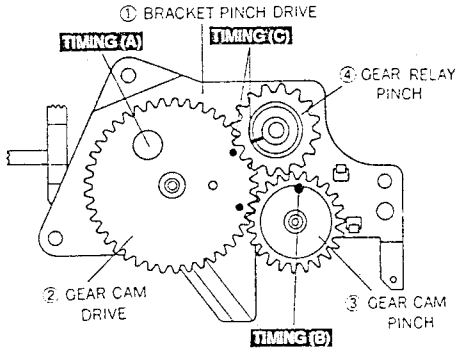


Fig. 41 Timing of Gear Cam Drive, Gear Cam Pinch & Gear Relay Pinch

Top View of Drive Pinch Ass'y

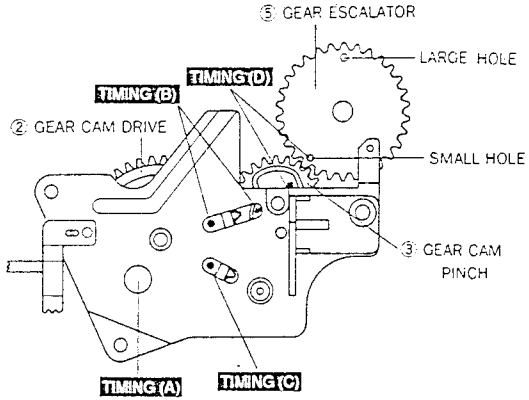


Fig. 42 Reassembly of Drive Pinch Ass'y & Gear Escalator

2-7-15. Reassembly of Full Review Arm Ass'y

1. Assemble the full review arm ass'y ① so that the gear review ② is touching the review stopper ③ as shown in Fig. 43.
2. Install the washer slit.

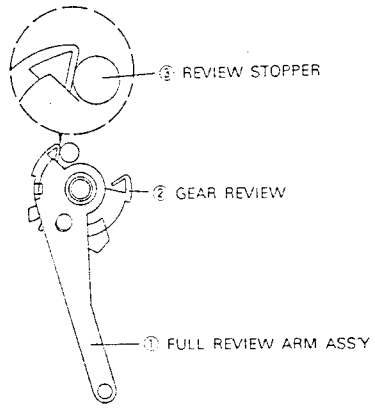


Fig. 43 Reassembly and Timing of Full Review Arm Ass'y

2-7-16. Reassembly of Gear Loading "L", "R" Ass'y

1. Reassemble the gear loading L/R ass'y in the eject mode while aligning the timing mark.
   (Refer to Fig. 44)

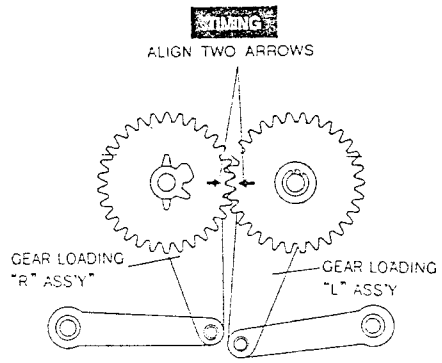


Fig. 44 Reassembly of Gear Loading "L", "R" Ass'y

2-7-17. Timing of Slide Main

1. Install the brake D/D capstan, lever tension control and slide I.B ass'y.
2. Install the slide main between brake D/D capstan and brake main "L", while pulling the brake D/D capstan and the brake main"L" toward arrow (A) and (B) respectively.
3. At the same time, make sure the brake sub "L" and the pole base is located as shown in the Fig. 45.
4. Install the one screw.

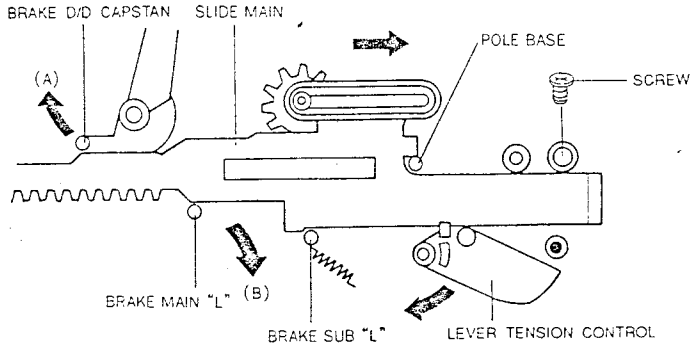


Fig. 45 Timing of Slide Main

2-7-18. Reassembly and Timing of Program S/W & Gear Master

1. Align two arrows on the program S/W ①. (Refer to timing (A))
2. After aligning timing (A) completely, install the gear master ② so that the boss on the program S/W ① is inserted into the small hole of gear master ②. (Refer to timing (B))
3. Install the gear worm wheel and then washer slit.

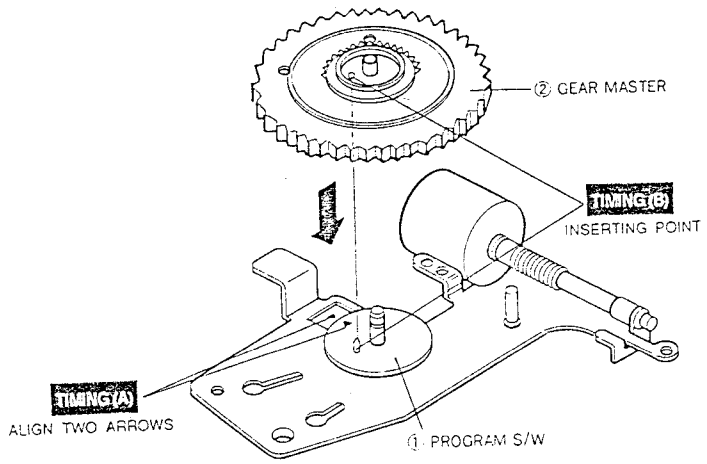


Fig. 46 Reassembly and Timing of Program S/W & Gear Master

2-7-19. Timing of Gear Master & Gear Eject Drive

1. Install the gear eject drive.
2. Install the loading unit and align the slot #2 of the gear eject drive ① with the hole of the gear master ②. (Refer to timing (A) in Fig. 47)
3. At this time, make sure that the arrow marks of the gear relay pinch ③ and the gear master ② are aligned correctly. (Refer to timing (B) in Fig. 47)

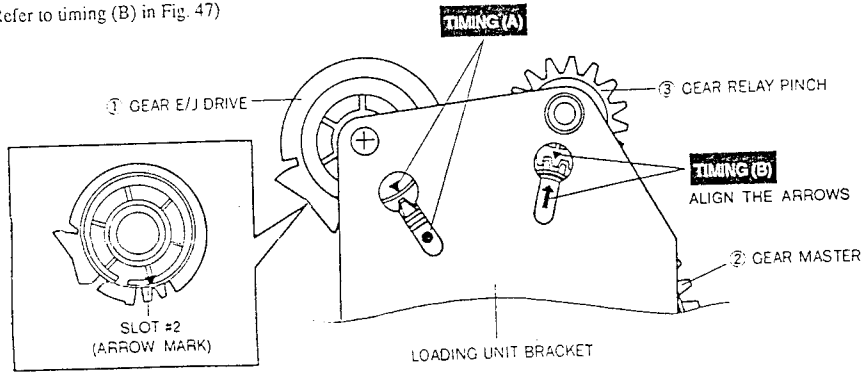


Fig. 47 Timing of Gear Master & Gear Eject Drive

2-8. TAPE TRANSPORT ASS'Y REMOVAL

2-8-1. Pole Base "L", "R" Ass'y Removal

1. Remove cylinder ass'y. (Refer to 2-5-1)
2. Move the pole base "L", "R" ass'y ①, ② to the end of slot.
3. Lift up the pole base "L", "R" ass'y ①, ②.

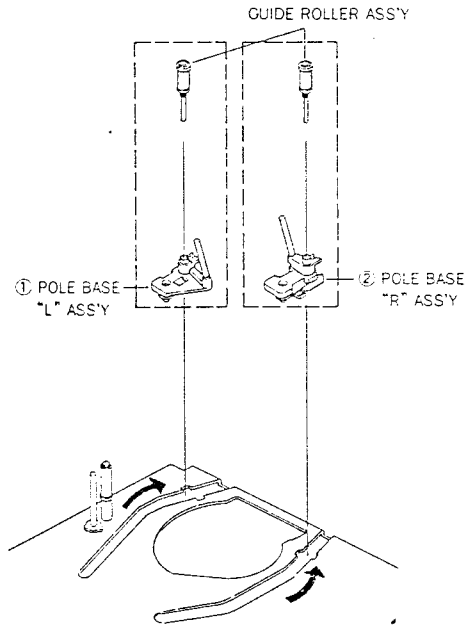


Fig. 48 Pole Base "L", "R" Ass'y Removal

2-8-2. Head Magnetic F/E Removal (Fig. 49)

1. Remove one (1) screw ① holding the full erase head ②.
2. Unsolder the F/E head P.C.B. ② from the head magnetic F/E ③.
3. Lift up the head magnetic F/E ③.

2-8-3. A/C Head Ass'y Removal (Fig. 50)

1. Remove two (2) screws ①.
2. Lift up A/C head ass'y ②.
3. Reinstall in reverse order.

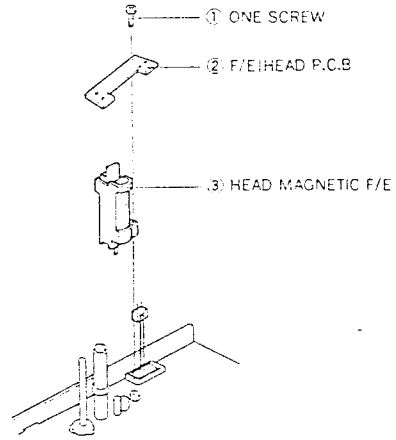


Fig. 49 Head Magnetic F/E Removal

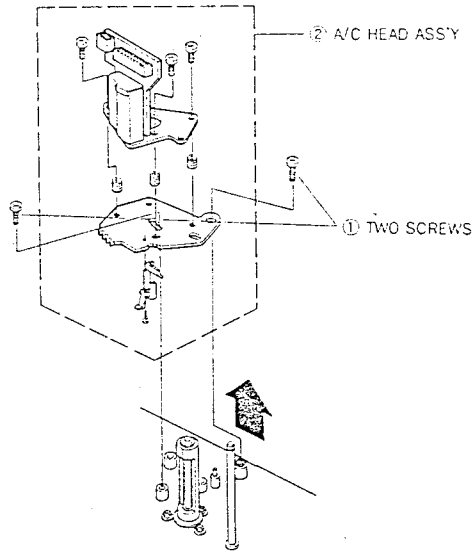


Fig. 50 A/C Head Ass'y Removal

3. MECHANICAL ADJUSTMENT

3-1. TAPE TRANSPORT SYSTEM

Note :
The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the followings :
* Noises observed on the screen.
* Tape damage.
* Parts replacement in the tape transport system.

3-1-1. Location of Tape Transport Adjustment (Adjustment Reference)

Lower flange height of tape guide is used as the basic reference for the transport adjustment.
To keep height of the tape guide, do not apply excessive force onto the main base to prevent damage.

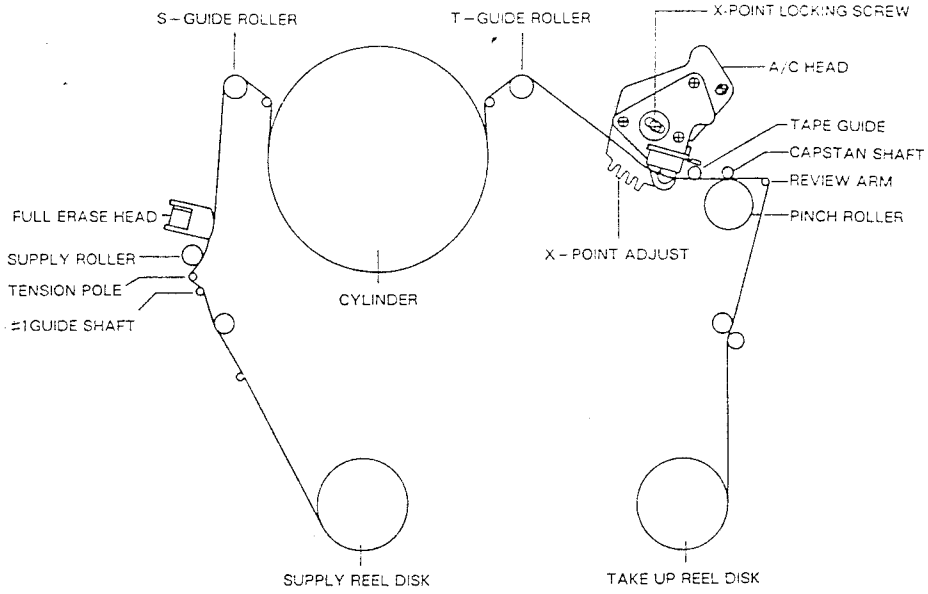


Fig. 1 Location of Tape Transport Adjustment

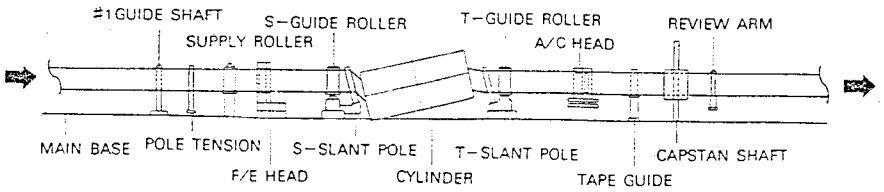


Fig. 2 Tape Travel Diagram

3-1-2. Tape Transport System Adjustment

1) Pre-adjustment

When the part(s) are replaced, perform required adjustments by referring to procedures for the tape transport system. When the part (s) are replaced, the tape path may be changed.
First run a E-180 tape and make sure excessive tape wrinkle does not occur at each tape guide.

1. If tape wrinkle is observed at the S, T-guide rollers, turn the S,T-guide rollers until wrinkle disappears.
2. If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the A/C head.

2) Adjustment procedure

1. A/C head assembly adjustment

Test Point : W3V01 (Envelope)
W3V02 (H'D SW - Trigger)
W3V03 (CTL Pulse)
TP4301 - 2PIN (Audio Out)
Test Tape : SR2-2 (Color Bar ; 1KHz)
SR1-2 (Mono Scope ; 6KHz)
Blank Tape (E-240)

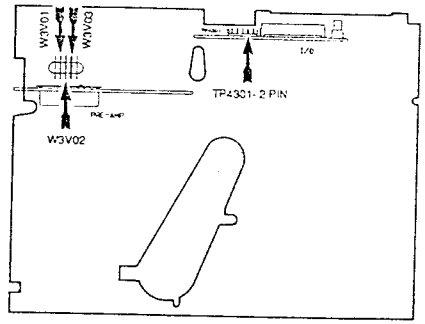


Fig. 3 Location of Test Point (Main PCB)

a. A/C head height adjustment

1. Run the alignment tape SR2-2 in the playback mode.
2. Observe surface of the audio head using a dental mirror.
3. Turn screw (A), (B), (C) clockwies or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25 mm.
(Refer to Fig. 4 and 5)

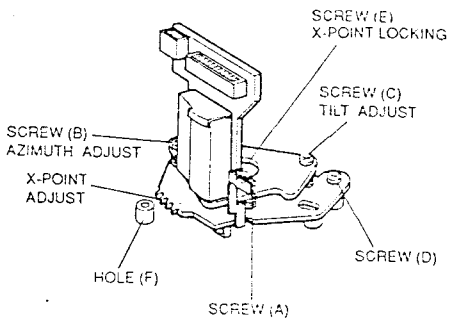


Fig. 4 Location of A/C Head Adjustment Screw

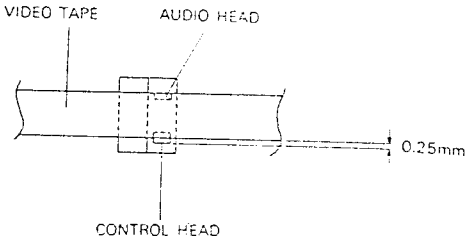


Fig. 5 A/C Head Height Adjustment

b. A/C head tilt adjustment

1. Playback a E-240 tape and observe position of the tape at the lower flange of tape guide.
2. Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig. 6 (B).
3. If a curl or wrinkle of the tape has occured, slightly turn the screw (C) tilt adjust on the A/C H'd ass'y clockwise until it disappears as shown in Fig. 6 (B).
4. Reconfirm the A/C head height.

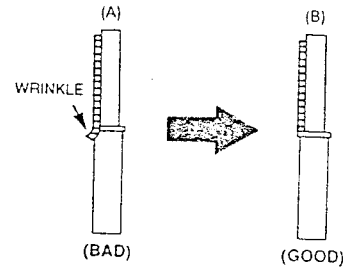


Fig. 6 Tape Guide Check

c. Audio azimuth adjustment

1. Load alignment tape (SR1-2 ; 6KHz) and playback the 6KHz signal.
2. Connect channel-1 scope probe to 2pin of TP4301 on the I/O PCB.
3. Adjust screw (B) vertically to achieve maximum audio level. (See Fig. 4)

d. A/C head position (X-Point) adjustment

1. Playback the SR1-2 alignment tape.
2. Connect CH-1 scope probe to W3V03.
3. Connect CH-2 scope probe to W3V02 and trigger head switching pulse.
4. Set tracking preset to 15msec (4 head) (0.5msec ; 2 head) using the "TRK" (Tracking) buton ▲/▼ of remote control. (Refer to Fig. 7 and 8)
5. Connect CH-1 scope probe to W3V01.
6. Turn the screw (E) counterclockwise. (See Fig. 4)
7. Insert the adjusting driver (X-Point) into the hole (F) of main base and adjust the A/C head ass'y so that envelope waveform is maximum amplitude and then tighten the screw (E).

◈ Setting of Scope ◈

- Volt/div. ; CH-1 = 0.1V CH-2 = 0.2V

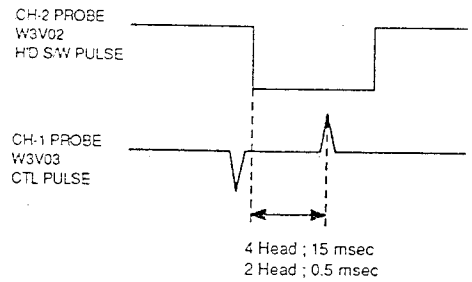


Fig. 7 Tracking Preset Adjustment

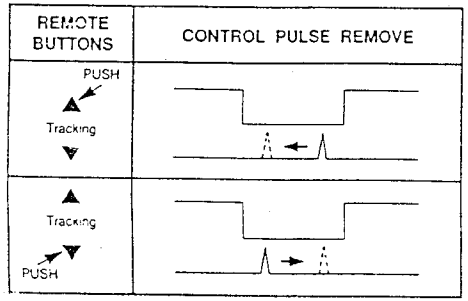


Fig. 8 Control Pulse Adjustment

2. Linearity adjustment (S, T-guide rollers adjustment)

Test Point : W3V01 (Envelope)
W3V02 (H'D SW - Trigger)
Test Tape : SR1-2 (Mono Scope ; 6KHz)

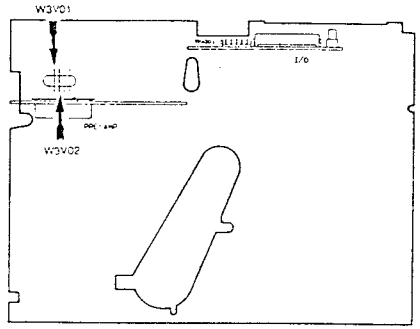


Fig. 9 Location of Test Point (Main PCB)

1. Playback the SR1-2 alignment tape (SP mode).
2. Observe the video envelope signal on an oscilloscope triggered by the video switching pulse.
3. Make sure the video envelope waveform (in its minimum output) meets the specification shown in Fig. 10. If it does not, adjust as follows ;

Note :
a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Minimum output of the video RF envelope at the exit side.

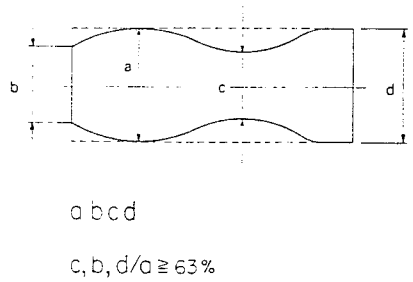


Fig. 10 Envelope Waveform Adjustment

4. If the section A in Fig. 11 does not meet the specification, adjust the S-guide roller up or down.
5. If the section B in Fig. 11 does not meet the specification, adjust T-guide roller up or down.

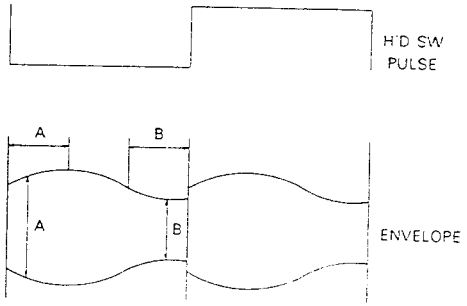


Fig. 11 Adjustment Points

6. Slightly loosen the set screw at the lower part of the S, T-guide rollers with a (Hex Wrench - 0.9mm) so that the guide roller can be adjusted with reasonable tightness. (Refer to Fig. 12)

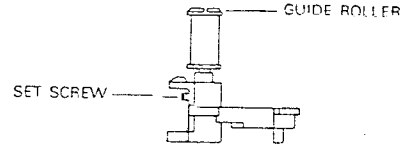


Fig. 12

7. Playback the SR1-2 alignment tape (SP mode).
8. Connect an oscilloscope CH-1 to the W3V01 and CH-2 to the W3V02 on the same PCB for triggering.
9. Turn the guide roller heads with a flat head ( ) screw driver to obtain flat video RF envelope as shown in Fig. 13.
10. After the adjustment is completed, tighten the set screws.

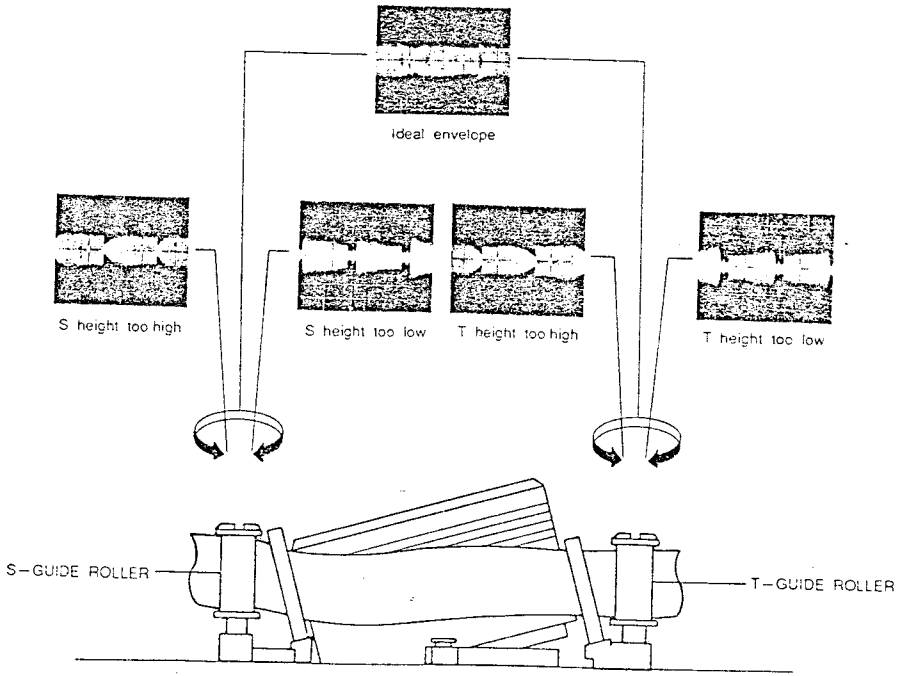


Fig. 13 S, T-Guide Roller Height Adjustments

3. Check for transitional operation from RPS to play

Check transition from RPS mode to play mode, using a pre-recorded SP tape, make sure the entrance side of envelope comes to an appropriate steady state within 3 seconds as shown in Fig. 14.

If the envelope waveform does not reach specified peak-to-peak amplitude within 3 seconds, adjust as follows :

1. Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2. Change operation mode from the RPS to the play mode again and make sure entrance side of envelope rises within 3 seconds.

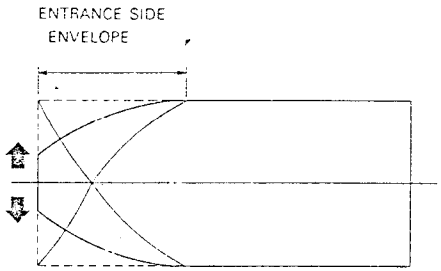


Fig. 14 Video envelope rising when operation mode changes from RPS to play mode.

4. Envelope check

1. Make recordings on E-120 and E-180 tapes, and make sure the playback output envelope meets the specification as shown in Fig. 15.
2. Playback a self recorded tape (recording made on this unit), (with a E-120) the video envelope should meet the specification as shown in Fig. 15.
   In SP mode, (A) should be same as (B).
   If the head gap is wide, upper cylinder should be checked.

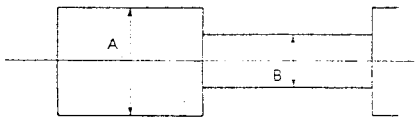


Fig. 15 Envelope Output and Output Level Difference

5. Tape wrinkle check

1. Run the E-240 tape in the playback, FPS, RPS and the pause mode and then observe tape wrinkle at each guide.
2. If excessive tape wrinkle is observed in the mode shown below, perform the associated adjustment shown below.

a. Playback mode
- Tape wrinkle at the S, T-guide roller section : Linearity adjustment.
- Tape wrinkle at tape guide flange : A/C head assembly coarse adjustment.

3-2. REEL TORQUE

3-2-1. Reel Torque

1. The rotation of the capstan motor operates the clutch ass'y through the belt capstan motor.
2. Brake operation and shift operation in FF/REW are done by a slide lever.
3. Transportation of accurate driving force is done by gears. (clutch ass'y)

MODE	TORQUE g/cm	GAUGE
PB/REC	100 ± 30	Cassette Torquement
RPS	170 ± 30	Cassette Torquement
FF/REW	Minimum 600	Torque Gauge

Note : If the spec is out of above chart, replace the clutch ass'y and then recheck.

3-2-2. Location of Tension Pole and Back Tension Adjustment

1. Remove the housing ass'y and set the deck to play mode.
2. Adjust the cam tension to 0 ~ −0.5mm from the center of supply roller.
3. The back tension meter should be used for checking back tension.

Check back tension, should be 40 ~ 47g.cm.
If not, adjust cam tension.

Counterclockwise : Torque UP
Clockwise : Torque DOWN

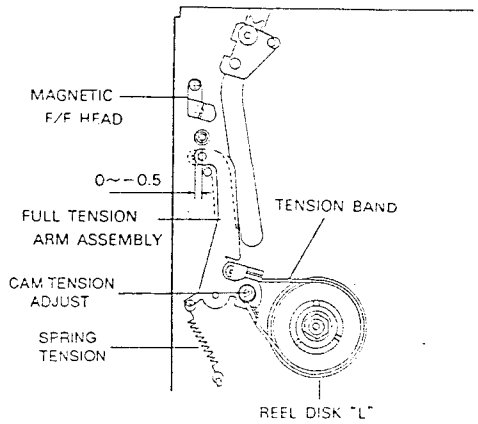


Fig. 16 Tension Pole and Back Tension Adjustment

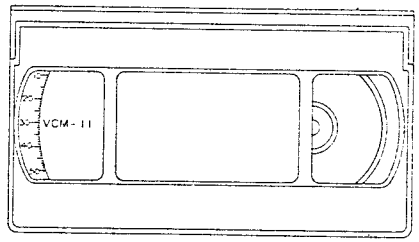


Fig. 17 Back Tension Tape Torque Cassette

4. ELECTRICAL ADJUSTMENTS

4-1. PREPARATION

Electrical adjustments are required after replacing circuit components and certain mechanical parts.
It is important to perform these adjustment only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

4-1-1. Required Test Equipment

1. Color Television or Monitor.
2. Oscilloscope : wide-band, dual-trace, triggered delayed sweep.
3. Trackingscope.
4. AC Voltmeter.
5. Recording tape. (Blank tape)
6. Alignment tapes : SR1-2, SR2-2, SR2-3

Tapes	Video Signal	Audio Signal
SR1-2 (PAL)	Mono Scope	6 KHz
SR2-2 (PAL)	Color Bars	1 KHz
SR2-3 (SECAM)	Color Bars	1 KHz

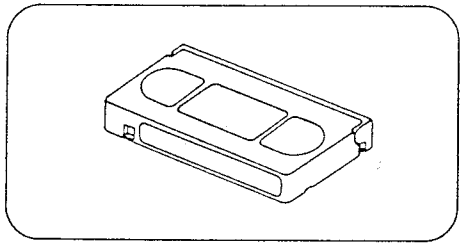


Fig. 1 Alignment Tape

7. Pattern Generator : PAL color bar. 100% White.

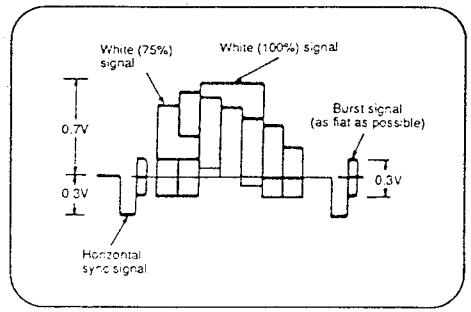


Fig. 2 Color bar signal of pattern generator

(Color Bar Signal)
The 75% color bar signal recorded on the alignment tape is shown in Fig. 3.

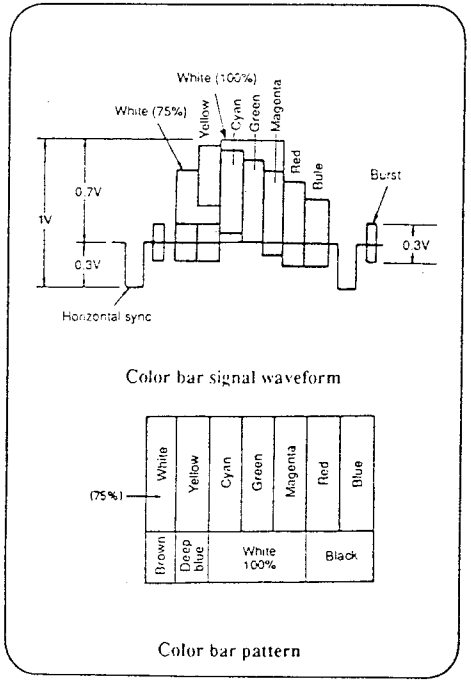
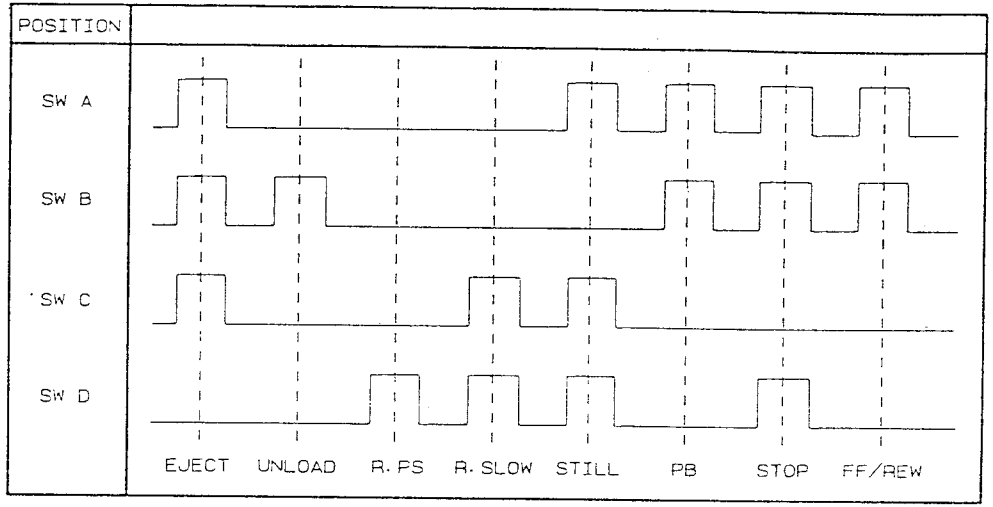


Fig. 3 Color bar signal of alignment tape

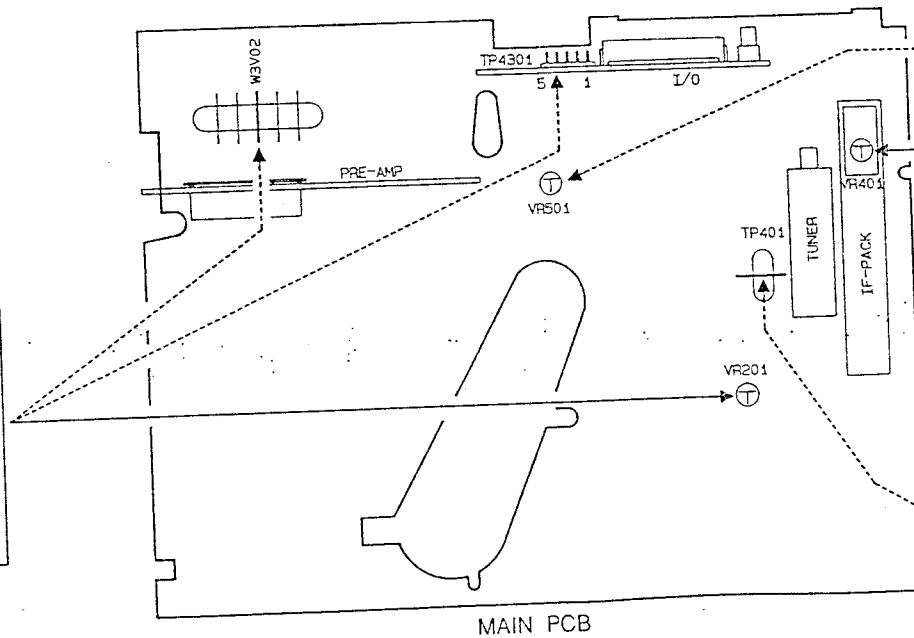
4-2. PROGRAM SWITCH TIMING CHART

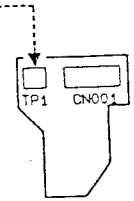


MODE (OPERATION CONDITION)	SWITCH POSITION	IC606 A	IC606 B	IC606 C	IC606 D
EJECT	EJECT	H	H	H	L
UNLOAD	UNLOAD	L	H	L	L
R. PS	R. PS	L	L	L	H
R. SLOW	R. SLOW	L	L	H	H
STILL	STILL	H	L	H	H
PLAY. FPS. REC	PB	H	H	L	L
STOP	STOP	H	H	L	H
FF/REW	FF/REW	H	H	L	L

4-3. SERVO, AUDIO & TUNER SECTION

STEP	ADJUSTMENT ITEM
1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS	ADJ. part Test Point

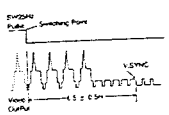




A/C HEAD PCB

1 SWITCHING POINT

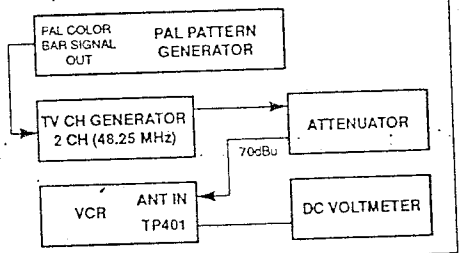
1. "PB", Alignment tape SR2-2
2. W3V02 (Main PCB), TP4301 - 4 pin (I/O PCB) & VR201 (Main PCB)
3. • Connect an oscilloscope's CH-1 to W3V02 for triggering and CH-2 to TP4301 - 4 pin.
   • Adjust VR201 so that the switching point is positioned 6.5 ± 0.5 H from the V-SYNC left edge as shown.



2 AUDIO BIAS LEVEL

1. "REC"(SP mode), no signal input
2. TP1 (A/C Head) & VR501 (Main PCB)
3. • Connect AC volumeter probes to TP1 on the A/C Head PCB.
   • Adjust VR501 so that the reading on the AC volumeter becomes 2.5mVrms.

• Composition for RF AGC Adjustment



3 RF AGC

1. "E-E' (stop mode), RF signal
2. TP401 (Main PCB) & VR401 (IF-PACK)
3. • Apply PAL color bar signal to the video input terminal of the TV channel generator and set channel selector to CH 2 (48.25 MHz).
   • Adjust the point signal level so that the output of attenuator is 70 dBu.
   • Apply the output of attenuator to the ANT IN terminal of VCR.
   • Set the channel of VCR to CH 2.
   • Connect DC voltmeter to TP401.
   • Adjust VR401 for DC 4.2 ± 0.1V.

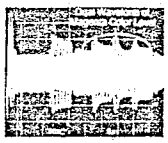
4-4. SECAM SECTION

STEP	ADJUSTMENT ITEM
1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS	

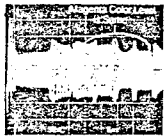
ADJ. part
Test Point

1 REC ANTI-BELL

1. "REC", SECAM color bar signal (LINE or AV)
2. W3S01 (Main PCB) & FL3S02 (Main PCB)
3. * Connect an oscilloscope CH-1 to W3S01.
   * Adjust FLS302 sothat the CH1 and CH2 of the magenta color level are same.



(Bad)

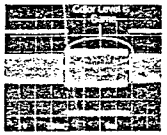


(Good)

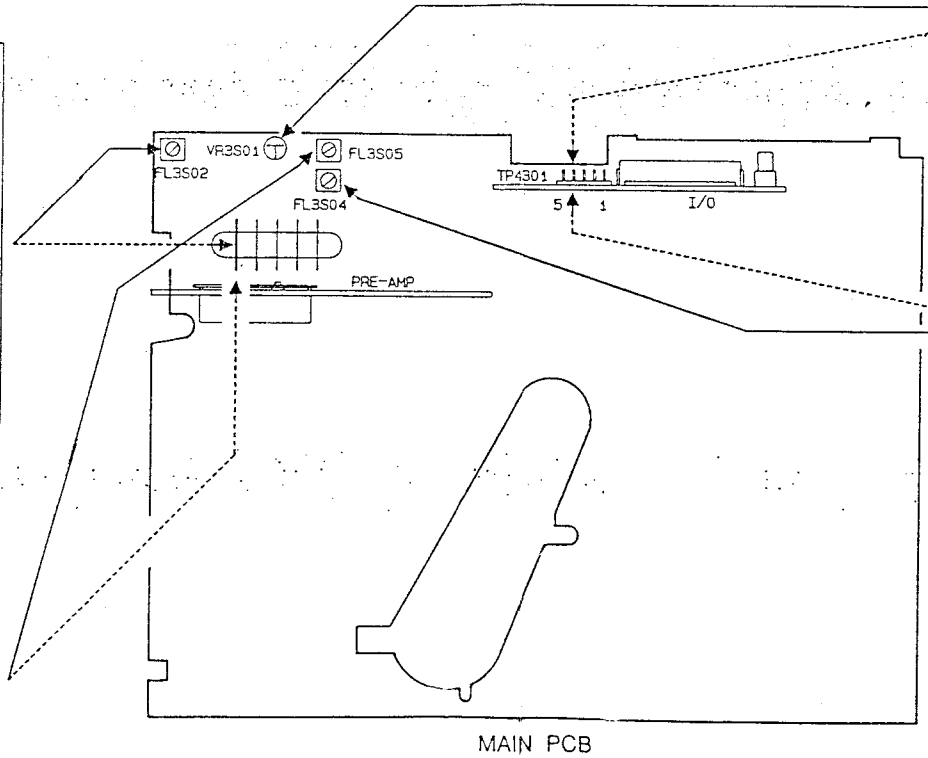
3 PB BELL

1. "PB", Alignment tape SR2-3
2. W3S01 (Main PCB) & FL3S05 (Main PCB)
3. * Connect an oscilloscope CH-1 to W3S01.
   * Adjust FL3S05 so that the top and bottom part is as flat as possible.

(Bad)



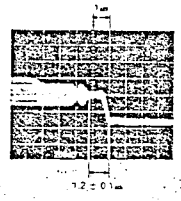
(Good)



MAIN PCB

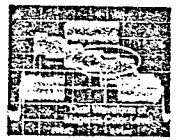
4 VIDEO SYNC TIMING

1. "PB", Alignment tape SR2-3
2. TP4301 - 4 pin (Main PCB) & VR3S01 (Main PCB)
3. * Connect an oscilloscope CH-1 to TP4301 - 4 pin.
   * Adjust VR3S01 so that the noise gate pulse position is 1.2 ± 0.1μ sec from the H-SYNC signal.

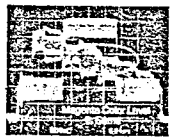


2 PB ANTI-BELL

1. "PB", Alignment tape SR2-3
2. TP4301 - 4 pin (Main PCB) & FL3S04 (Main PCB)
3. * Connect an oscilloscope CH-1 to TP4301-4 pin.
   * Adjust FL3S04 so that the magenta of color in 100% white level do not make a "Doubling Picture".



(Bad)



(Good)

5. ELECTRICAL PARTS LIST

5-1. GENERAL INFORMATION

1. Parts Replacement

Many electrical and mechanical parts in Video Cassette Recorder (Player) have special safety-related characteristics. These characteristics are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual ; electrical components having such features are identified by ⚠ in the replacement parts lists and schematic diagrams. The use of a replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

2. Unless otherwise specified :

1) All resistors are in ohms (Ω)

- K = 1,000
- M = 1,000K

* RD : 1/4W, ± 5% Carbon
* RM : 1/8W, ± 5% Metal-film

2) All capacitors are in ± 10%, MF = μF.

* CC : PF = uuF, Ceramic, Temp
* CK : PK = uuF, Ceramic, MK
* CS : Tantalium
* CQ : Polyester
* CE : Elecrolytic

3) All coils are in microhenry (uH)

- 1mH = 1,000uH

3. ASS'Y = Assembly

4. ⚠ Mark : Safety related parts.

5. How to order replacement parts

To have your order filed promptly and correctly, please furnish the following informations.

1) Model Number
2) Location Number
3) Part Number
4) Description & Specification

5-2. ELECTRICAL REPLACEMENT PARTS LIST

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
1SC	69098-220-500	REGULATOR ASSY;KA-S 100-240V CP2
	63050-811-221	POWER CORD ASSY;KLCE-2F CP-2
BD101	B4104-0060	DIODE-RECT;DF06M 720V 1A STICK BRIDGE
C101	B1102-0100	C-FILM;KNB 1530 0.22UF/AC250V
C102	61419-001-001	C-FILM;KNB1530 0.1UF/AC250V
C103	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
C104	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
C105	61655-611-101	C-ELECTROLYTIC;CE04W 100UF/400V
C106	61419-001-004	C-POLYESTER;ET M2JRB 473K 630V
C107	A1100-0660	C-CERAMIC;CC 45 SL 1KV T 101-K 08ECFK
C108	61507-121-511	C-POLYESTER;CQ521M TAPG 100V 225-J
C109	61637-511-470	C-ELEC;CEAP 100V 47M SG(10X12.5)
C110	A1104-0364	C-ELEC;CE 04 C 25V 101-M
C111	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
C112	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
C113	A1104-0365	C-ELEC;CE 04 C 50V 331-M
C114	A1104-0269	C-ELEC;CE04C 10V 2200M STX10X20(105C)
C115	61637-505-331	C-ELEC;CEAP 25V 330M SG(10X12.5)
C116	A1104-0290	C-ELEC;CE04C 25V 1000M STX10X20(105C)
C117	61637-505-331	C-ELEC;CEAP 25V 330M SG(10X12.5)
C118	61637-508-470	C-ELEC;CEAP 50V 47M SG(8X11)
C119	61637-511-100	C-ELEC;CEAP 100V 10M SG(8X11)
C120	61637-504-101	C-ELEC;CEAP 16V 100M SG(8X11)
C121	61507-121-480	C-POLYESTER;CQ521M TAPG 100V 153-K
C122	A1104-0366	C-ELEC;CE 04 B 250V 2R2-M
C123	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
C124	A1100-0450	C-CERAMIC;CK45B 400V 222M 12/SC E 2G 222M
CN101	A6010-0407	CONNECTOR-WAFER;2S-5085-009-000 BLK
D101	B4102-0006	DIODE-FR;EG01C(3.3)V 500MA (0.15)US
D103	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
D104	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
D105	B4102-0033	DIODE-FR;UF4007 1000V 1A 75NS T
D106	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
D107	B4102-0005	DIODE-FR;FMP-G12D(1.15)V 5A (0.15)US
D108	B4102-0029	DIODE-FR;ERC90G-02YMG 200V 5A 35NS T
D109	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
D110	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
D111	B4102-0029	DIODE-FR;EU02W 400V 1A 0.4US T
F101	64709-065-040	FUSE;T1.6A 250V 218 5X20MM LT EUR
F102	64709-065-140	FUSE;T2A 250V 218 LF
IC101	B4010-0015	IC-HYBRID;STR11006 SMPS SIP
IC102	62119-401-313	IC;PQ12RF11
L101	64529-420-290	LINE FILTER;SHL 020
L102	A1100-0017	COIL-CHOCK;20UH MP
L103	64529-630-010	FILTER CHOKE;EPI
Q101	A4056-0019	TR-SWITCHING;2SD1277T 1W 150MHZ SI-NPN T
R101	A1014-0011	R-CEMENT;RMC 2 R 2R2-K
R102	A1006-0458	R-METAL FILM;RM 1/4 T 750-J
R103	A1004-0196	R-METAL OXIDE;RS 1/2 T(S) 154-J
R104	B1004-0198	R-METAL OXIDE;RS 2W 33K-J/ERG2SJ333E
R105	61049-427-330	R-METAL OXIDE;RS 1N 33-J
R106	B1004-0304	R-METAL OXIDE;RS 2 T 330-J/ERG2SJ331E
R107	A1014-0014	R-CEMENT;RMC 2 R(S) R47-K
R108	61048-277-102	R-METAL FILM;RM 1/4T 1K-J
R109	61048-277-102	R-METAL FILM;RM 1/4T 1K-J
R110	A1006-0550	R-METAL FILM;RM 1/4 T 5R1-J
R111	A1006-0457	R-METAL FILM;RM 1/4 T 120-J
R112	A1006-0458	R-METAL FILM;RM 1/4 T 750-J
R113	61048-277-152	R-METAL FILM;RM 1/4T 1.5K-J
R114	B1004-0198	R-METAL OXIDE;RS 2W 33K-J/ERG2SJ333E
R115	B1004-0304	R-METAL OXIDE;RS 2 T 330-J/ERG2SJ331E
R116	61048-177-103	R-METAL FILM;RM 1/4T 0.10K-J
T101	A1206-0003	TRANS-SWITCHING;PN150-240V 5(6.5+5)V VDR
ZD101	62169-423-096	DIODE-ZENER;MTZ 22D

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
		ASSY REMOCON;NR2559M (LCD)
	69099-625-706	VK-350
	69099-625-707	VK-320
	64043-0051-00	DOOR BATTERY RET;ABS94HB T2.0 BLK NR2559
	64043-0056-00	DOOR-HIDDEN;ABS94HB T1.5 BLK
CT01	61453-131-330	C-CERAMIC CHIP;0805 5A 330JAT MA
CT02	61453-131-220	C-CERAMIC CHIP;0805 5A 220JAT MA
CT03	61453-130-301	C-CERAMIC CHIP;0805 5A 300JAT MA
CT04	61453-130-301	C-CERAMIC CHIP;0805 5A 300JAT MA
CT05	61637-806-229	C-ELEC;CEAP 35V 2.2M SE(3X5)
CT06	61647-702-470	C-ELEC;CEAP 6.3V 47M SS(2.5)
CT07	61453-130-104	C-CERAMIC CHIP;0805 5E 104ZA1 MA
DT01	62169-406-482	DIODE;1N4148 SAMSUNG
DT03	62169-406-482	DIODE;1N4148 SAMSUNG
ICT01	67199-0142-00	MICOM;KS56C820-59 VF-370 OFP
IT01	62309-112-041	LED-IR;GL538
IT02	62309-112-041	LED-IR;GL538
LCT01	A4155-0023	LCD;LE-D10-004A VF-370
QT01	62129-501-123	TRANSISTOR CHIP;2SC 2412
QT02	62129-501-123	TRANSISTOR CHIP;2SC 2412
RT01	61079-917-334	R-MG CHIP;RMC 1/10 330K-J
RT02	61079-917-333	R-MG CHIP;RMC 1/10 33K-J
RT03	61079-917-751	R-MG CHIP;RMC 1/10 750-J
RT04	61079-917-339	R-MG CHIP;RMC 1/10 3.3-J
XT01	64539-021-010	CRYSTAL;P-3(32.768KHZ)
XT02	A1260-0056	CRYSTAL;2.4256MHZ HC-49/U-A 30PPM

		ASSY REMOCON;NR2559 (W/O LCD)
	69099-625-209	VK-330
	69099-625-206	VK-320/APS, MAR
	69099-625-213	VK-300
	64043-0051-00	DOOR BATTERY RET;ABS94HB T2.0 BLK NR2559
	64043-0056-00	DOOR-HIDDEN;ABS94HB T1.5 BLK NR2559
CT1	61637-802-479	C-ELEC;CEAP 6.3V 4.7M SE(3X5)
CT2	61407-101-360	C-CERAMIC TEMP;CC45 SL TAPG 50V 100-J
CT3	61407-101-360	C-CERAMIC TEMP;CC45 SL TAPG 50V 100-J
DT1	62309-112-041	LED-IR;GL538
DT2	62309-112-041	LED-IR;GL538
ICT01	A4002-0064	IC-MCU;KS51600-05 VCR SOP
QT1	62137-702-020	TRANSISTOR;KSC 1008-Y TAPG
RT1	61046-177-109	R-METAL FILM;RM 1/8TS 1-J
RT2	61046-177-564	R-METAL FILM;RM 1/8TS 560K-J
XT1	64539-102-011	CERAMIC RESONATOR;CS6455EBL/KBR455BKTL

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
670	69371-302-234	ASSY F/TIMER;X-3 PAL (VK-350)
	69371-302-232	ASSY F/TIMER;X-3 PAL (VK-320)
	63054-316-150	FFC CABLE;BNCD-1.25-K-16P-150M/M
	63054-327-130	FFC CABLE;BNCD-1.25-K-27P-130M/M
C701	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C703	61407-101-320	C-CERAMIC,TEMP;CC45 SL TAPG 50V 82-J
C704	A1100-0561	C-CERAMIC;CK OA Y 50V T 2200-N
C706	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C707	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C709	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
CN701	B6010-0359	CONNECTOR-WAFER;HLEM-27R-1 BLK
CN702	B6010-0361	CONNECTOR-WAFER;HLEM-16R-1 BLK
D703	62169-406-482	DIODE;1N4148 SAMSUNG
D706	62169-406-482	DIODE;1N4148 SAMSUNG
D707	62169-406-482	DIODE;1N4148 SAMSUNG
D710	62169-406-482	DIODE;1N4148 SAMSUNG
D712	62169-406-482	DIODE;1N4148 SAMSUNG
D714	62169-102-057	DIODE-SHOTTKY;1SS108TA
D715	62169-102-057	DIODE-SHOTTKY;1SS108TA
D716	62169-406-482	DIODE;1N4148 SAMSUNG
D717	62169-406-482	DIODE;1N4148 SAMSUNG
D718	62169-406-482	DIODE;1N4148 SAMSUNG
D719	62169-406-482	DIODE;1N4148 SAMSUNG
D720	62169-406-482	DIODE;1N4148 SAMSUNG
D721	62169-406-482	DIODE;1N4148 SAMSUNG
D722	62169-406-482	DIODE;1N4148 SAMSUNG
D723	62169-406-482	DIODE;1N4148 SAMSUNG
D724	62169-406-482	DIODE;1N4148 SAMSUNG
D725	62169-406-482	DIODE;1N4148 SAMSUNG
D726	62169-406-482	DIODE;1N4148 SAMSUNG
D727	62169-406-482	DIODE;1N4148 SAMSUNG
D728	62169-406-482	DIODE;1N4148 SAMSUNG
FL701	A4153-0018	V.F. DISPLAY;SVV-9ME01
JA701	A3040-0004	JACK PIN;DSP-8805-03(YEL)
JA702	A3040-0003	JACK PIN;DSP-8805-03(WHT)
LD704	62309-110-340	LED;GL-3HD7/GL3HD8
LD705	62309-110-340	LED;GL-3HD7/GL3HD8
R701	61048-177-473	R-METAL FILM;RM 1/8TS 47K-J
R704	61048-177-221	R-METAL FILM;RM 1/8TS 220-J
R705	61048-177-221	R-METAL FILM;RM 1/8TS 220-J
R706	61048-177-221	R-METAL FILM;RM 1/8TS 220-J
R707	61048-177-472	R-METAL FILM;RM 1/8TS 4.7K-J
R710	61048-177-472	R-METAL FILM;RM 1/8TS 4.7K-J
R711	61048-277-101	R-METAL FILM;RM 1/4T 100-J
R712	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R713	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R714	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R715	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R716	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R717	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R718	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R719	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R720	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R721	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R722	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R723	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R724	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R725	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R726	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R727	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R728	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R729	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R730	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R731	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R732	61048-177-224	R-METAL FILM;RM 1/8TS 220K-J
R734	61048-177-750	R-METAL FILM;RM 1/8TS 75-J
R735	61048-177-153	R-METAL FILM;RM 1/8TS 15K-J
R736	61048-177-153	R-METAL FILM;RM 1/8TS 15K-J
R737	61048-277-101	R-METAL FILM;RM 1/4T 100-J
R738	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R739	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R740	A1006-0550	R-METAL FILM;RM 1/4 T 5R1-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
RM701	64529-312-041	REMOCON-MODULE;SBX1610-62
SW701	63599-016-070	SW-TACT;EVO-OS2 05K
SW702	63599-016-070	SW-TACT;EVO-OS2 05K
SW703	63599-016-070	SW-TACT;EVO-OS2 05K
SW704	63599-016-070	SW-TACT;EVO-OS2 05K
SW705	63599-016-070	SW-TACT;EVO-OS2 05K
SW706	63599-016-070	SW-TACT;EVO-OS2 05K
SW707	63599-016-070	SW-TACT;EVO-OS2 05K
SW708	63599-016-070	SW-TACT;EVO-OS2 05K
SW709	63599-016-070	SW-TACT;EVO-OS2 05K
SW711	63599-016-070	SW-TACT;EVO-OS2 05K
SW712	63599-016-070	SW-TACT;EVO-OS2 05K
SW713	63599-016-070	SW-TACT;EVO-OS2 05K
SW714	63599-016-070	SW-TACT;EVO-OS2 05K
SW715	63599-016-070	SW-TACT;EVO-OS2 05K
SW716	63599-016-070	SW-TACT;EVO-OS2 05K
SW719	63599-016-070	SW-TACT;EVO-OS2 05K
SW720	63599-016-070	SW-TACT;EVO-OS2 05K
SW721	63599-016-070	SW-TACT;EVO-OS2 05K
SW722	63599-016-070	SW-TACT;EVO-OS2 05K
SW723	63599-016-070	SW-TACT;EVO-OS2 05K
SW725	63519-102-072	SW-SLIDE;KSA 2240A/T00220003-2
SW726	63519-102-071	SW-SLIDE;KSA 2340A/T0023002-3
SW727	63519-102-072	SW-SLIDE;KSA 2240A/T00220003-2
VR701	B1052-0001	VR-ROTARY BLOCK;RK16Y12S 100KBX1
ZD701	62169-423-092	DIODE-ZENER;MTZ 6.8B/UZ 6.8BH
ZD702	A4106-0065	DIODE-ZENER;UZP-27BH 27V 30MAT(1W)

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670	69371-302-233	ASSY F/TIMER;X-3 PAL (VK-330)
	69371-302-231	ASSY F/TIMER;X-3 PAL (VK-300)
	63054-327-130	FFC CABLE;BNCD-1.25-K-27P-130M/M
	63054-316-150	FFC CABLE;BNCD-1.25-K-16P-150M/M
C701	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C703	61407-101-320	C-CERAMIC,TEMP;CC45 SL TAPG 50V 82-J
C704	A1100-0561	C-CERAMIC;CK OA Y 50V T 2200-N
C706	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C707	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C709	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
CN701	B6010-0359	CONNECTOR-WAFER;HLEM-27R-1 BLK
CN702	B6010-0361	CONNECTOR-WAFER;HLEM-16R-1 BLK
D703	62169-406-482	DIODE;1N4148 SAMSUNG
D707	62169-406-482	DIODE;1N4148 SAMSUNG
D710	62169-406-482	DIODE;1N4148 SAMSUNG
D712	62169-406-482	DIODE;1N4148 SAMSUNG
D714	62169-102-057	DIODE-SHOTTKY;1SS108TA
D715	62169-102-057	DIODE-SHOTTKY;1SS108TA
D717	62169-406-482	DIODE;1N4148 SAMSUNG
D718	62169-406-482	DIODE;1N4148 SAMSUNG
D719	62169-406-482	DIODE;1N4148 SAMSUNG
D721	62169-406-482	DIODE;1N4148 SAMSUNG
D722	62169-406-482	DIODE;1N4148 SAMSUNG
D723	62169-406-482	DIODE;1N4148 SAMSUNG
D724	62169-406-482	DIODE;1N4148 SAMSUNG
D725	62169-406-482	DIODE;1N4148 SAMSUNG
D726	62169-406-482	DIODE;1N4148 SAMSUNG
D727	62169-406-482	DIODE;1N4148 SAMSUNG
D728	62169-406-482	DIODE;1N4148 SAMSUNG
FL701	A4153-0018	V.F. DISPLAY;SVV-9ME01
JA701	A3040-0004	JACK PIN;DSP-8805-03(YEL)
JA702	A3040-0003	JACK PIN;DSP-8805-03(WHT)
LD704	62309-110-340	LED;GL-3HD7/GL3HD8
LD705	62309-110-340	LED;GL-3HD7/GL3HD8
R701	61048-177-473	R-METAL FILM;RM 1/8TS 47K-J
R704	61048-177-221	R-METAL FILM;RM 1/8TS 220-J
R705	61048-177-221	R-METAL FILM;RM 1/8TS 220-J
R707	61048-177-472	R-METAL FILM;RM 1/8TS 4.7K-J
R710	61048-177-472	R-METAL FILM;RM 1/8TS 4.7K-J
R711	61048-277-101	R-METAL FILM;RM 1/4T 100-J
R712	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R713	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R714	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R715	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R716	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R717	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R718	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R719	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R720	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R721	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R722	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R723	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R724	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R725	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R726	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R727	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R728	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R729	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R730	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R731	61048-177-683	R-METAL FILM;RM 1/8TS 68K-J
R732	61048-177-224	R-METAL FILM;RM 1/8TS 220K-J
R734	61048-177-750	R-METAL FILM;RM 1/8TS 75-J
R735	61048-177-153	R-METAL FILM;RM 1/8TS 15K-J
R736	61048-177-153	R-METAL FILM;RM 1/8TS 15K-J
R737	61048-277-101	R-METAL FILM;RM 1/4T 100-J
R738	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R739	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R740	A1006-0550	R-METAL FILM;RM 1/4 T 5R1-J
RM701	64529-312-041	REMOCON-MODULE;SBX1610-62
SW701	63599-016-070	SW-TACT;EVO-OS2 05K
SW702	63599-016-070	SW-TACT;EVO-OS2 05K
SW703	63599-016-070	SW-TACT;EVO-OS2 05K
SW704	63599-016-070	SW-TACT;EVO-OS2 05K
SW705	63599-016-070	SW-TACT;EVO-OS2 05K
SW706	63599-016-070	SW-TACT;EVO-OS2 05K
SW707	63599-016-070	SW-TACT;EVO-OS2 05K
SW708	63599-016-070	SW-TACT;EVO-OS2 05K
SW709	63599-016-070	SW-TACT;EVO-OS2 05K
SW711	63599-016-070	SW-TACT;EVO-OS2 05K
SW712	63599-016-070	SW-TACT;EVO-OS2 05K
SW713	63599-016-070	SW-TACT;EVO-OS2 05K
SW714	63599-016-070	SW-TACT;EVO-OS2 05K
SW715	63599-016-070	SW-TACT;EVO-OS2 05K
SW716	63599-016-070	SW-TACT;EVO-OS2 05K
SW719	63599-016-070	SW-TACT;EVO-OS2 05K
SW720	63599-016-070	SW-TACT;EVO-OS2 05K
SW721	63599-016-070	SW-TACT;EVO-OS2 05K
SW722	63599-016-070	SW-TACT;EVO-OS2 05K
SW723	63599-016-070	SW-TACT;EVO-OS2 05K
SW726	63519-073-020	SW-SLIDE;SSS 323
SW727	63519-073-021	SW-SLIDE;SSS 322
ZD701	62169-423-092	DIODE-ZENER;MTZ 6.8B/UZ 6.8BH
ZD702	A4106-0065	DIODE-ZENER;UZP-27BH 27V 30MAT(1W)

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
600		ASSY MAIN W-PAUME/SECAM B/G D/K
	69357-302-252	VK-350
	69357-302-217	VK-330
	69357-302-251	VK-320
	69357-302-276	VK-320/APS, MAR
	69357-302-216	VK-300

POWER PARTS

C151	61637-505-331	C-ELEC;CEAP 25V 330M SG(10X12.5)
C152	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
CN151	A6010-0406	CONNECTOR-WAFER;16-5085-009-000 BLK
D151	62169-406-482	DIODE;1N4148 SAMSUNG
D152	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D153	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D154	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D155	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D156	62169-406-482	DIODE;1N4148 SAMSUNG
D157	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D158	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D160	62169-901-095	DIODE-CHIP;DAN202K (T96)
D162	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
D163	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
Q151	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q152	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q153	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
Q154	62147-401-835	TRANSISTOR;KSA 928A-Y TAPG
Q155	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
Q156	62137-701-012	TRANSISTOR;KSR 1003 TAPG
Q157	62147-401-835	TRANSISTOR;KSA 928A-Y TAPG
Q158	62137-701-012	TRANSISTOR;KSR 1003 TAPG
Q159	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
Q160	62137-701-012	TRANSISTOR;KSR 1003 TAPG
Q161	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
Q162	62137-701-012	TRANSISTOR;KSR 1003 TAPG
Q165	62137-302-441	TRANSISTOR;KSC 2328-Y TAPG
R151	61048-177-561	R-METAL FILM;RM 1/8TS 560-J
R152	61048-277-221	R-METAL FILM;RM 1/4T 220-J
R153	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R154	61048-177-561	R-METAL FILM;RM 1/8TS 560-J
R155	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R156	61048-177-122	R-METAL FILM;RM 1/8TS 1.2K-J
R157	61048-177-152	R-METAL FILM;RM 1/8TS 1.5K-J
R159	61048-177-152	R-METAL FILM;RM 1/8TS 1.5K-J
R160	61048-177-392	R-METAL FILM;RM 1/8TS 3.9K-J
R161	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R162	61048-277-272	R-METAL FILM;RM 1/4T 2.7K-J
R163	61079-917-223	R-MG CHIP;RMC 1/10 22K-J
R166	61048-277-821	R-METAL FILM;RM 1/4T 820-J
ZD151	A4106-0064	DIODE-ZENER;UZ-5.6BCC 5.6V 20MAT
ZD152	62169-403-821	DIODE-ZENER;MTZ 5.1B

SYSTEM CONTROL PARTS

C601	A1100-0017	C-CERAMIC,CHIP;2012F 104Z
C602	A1100-0086	C-CERAMIC,CHIP;2012C 120J
C603	A1100-0086	C-CERAMIC,CHIP;2012C 120J
C604	61637-502-471	C-ELEC;CEAP 6.3V 470M SG(8X11.5)
C605	61453-131-103	C-CERAMIC,CHIP;0805 5C 103KAT MA
C606	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C607	B1104-0294	C-ELEC;CE 03 E 5.5V T 104F Z SUPER/EECSSRST104
C608	61453-131-103	C-CERAMIC,CHIP;0805 5C 103KAT MA
C611	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C620	A1100-0010	C-CERAMIC,CHIP;2012B 102K
C621	A1100-0009	C-CERAMIC,CHIP;2012C 101J
C640	A1100-0016	C-CERAMIC,CHIP;2012B 152K
C641	A1100-0015	C-CERAMIC,CHIP;2012B 152K
C645	A1100-0017	C-CERAMIC,CHIP;2012F 104Z
C660	61407-117-104	C-CERAMIC,AXIAL;CAX Y TAPG 16V 0.01-N
C661	61407-117-104	C-CERAMIC,AXIAL;CAX Y TAPG 16V 0.01-N
CN601	B6010-0360	CONNECTOR-WAFER;HLEM-27S-1 BLK
CN602	B6010-0415	CONNECTOR-WAFER;HLEM 16S-1 BLK
CN603	B6010-0356	CONNECTOR-WAFER;52450-0760 VMT
DA1	62169-406-482	DIODE;1N4148 SAMSUNG

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
D604	B4104-0046	DIODE-RECT;1N4002GP 200V 1A
IC601	B4902-0186	IC-MCU;HD6432724 A50F QFP
IC602	62119-401-300	IC;KA5361(N.M)
IC603	62119-401-186	IC;KM56C46
IC604	62119-101-770	IC,TC4066BP/FC4066BCN
IC606	62119-103-712	IC;TC4021BP
IC607	A4006-0754	IC;KA7533
L601	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L610	62429-958-628	INDUCTOR FERRITE BEAD;BL02RN1-R62T2
LD601	62309-112-043	LED IR;GL-451(SHARP)
Q631	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q602	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q604	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q641	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q643	66219-0010-00	SENSOR-PHOTO TRANSISTOR;PT 493F
Q644	66219-0010-00	SENSOR-PHOTO TRANSISTOR;PT 493F
Q645	66419-0001-00	INTERUPTER-PHOTO;SG-105LF
Q646	66419-0001-00	INTERUPTER-PHOTO;SG-105LF
R601	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R602	A1000-0315	R-MG.CHIP;RMC 1/10 51K-J
R604	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R605	61079-917-220	R-MG.CHIP;RMC 1/10 22-J
R606	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R607	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R608	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R609	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R611	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R612	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R613	61079-917-220	R-MG.CHIP;RMC 1/10 22-J
R614	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R618	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R619	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R620	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R630	B1004-0229	R-METAL OXIDE;RS 1R 7.5-J/ERX1SJ7R5E
R631	B1004-0229	R-METAL OXIDE;RS 1R 7.5-J/ERX1SJ7R5E
R632	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R633	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R634	61079-917-000	R-MG.CHIP;RMC 1/10 000
R635	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R636	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R637	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R638	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R639	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R640	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R641	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R642	61079-917-203	R-MG.CHIP;RMC 1/10 20K-J
R643	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R644	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R645	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R646	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R648	61079-917-391	R-MG.CHIP;RMC 1/10 390-J
R649	61079-917-274	R-MG.CHIP;RMC 1/10 270K-J
R650	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R651	61079-917-391	R-MG.CHIP;RMC 1/10 390-J
R652	61079-917-221	R-MG.CHIP;RMC 1/10 220-J
R653	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R655	61079-917-304	R-MG.CHIP;RMC 1/10 30K-J
R660	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R661	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R662	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R663	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R664	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R670	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R671	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R672	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R673	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R674	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R675	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R676	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R677	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R678	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R679	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R680	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R681	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R682	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R683	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R684	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R685	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R686	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R687	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R688	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R689	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R691	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R692	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R693	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
SW640	66209-0008-00	SWITCH-REC;MPU 10105 MMBO 5V
W652	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
W655	61048-177-682	R-METAL FILM;RM 1/8TS 6.8K-J
XT601	B1283-0018	RESONATOR-CERAMIC;8MHZ EFOGC8004T5 3/CN
XT602	64539-021-009	CRYSTAL;32.768KHZ

SERVO PARTS

C201	61507-121-551	C-POLYESTER;CO921M TAPG 50V 473-J
C202	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C203	61453-131-392	C-CERAMIC.CHIP;0825 5C 392KAT MA
C204	61453-130-474	C-CERAMIC.CHIP;0825 5C 473MAT 050M
C205	61637-204-220	C-ELEC;CEAP 16V 22M SA
C206	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C207	61627-204-479	C-ELEC;CEAP 16V 4.7M NP(4X7)
C208	A1100-0015	C-CERAMIC.CHIP;2012B 152K
C209	61507-121-551	C-POLYESTER;CO921M TAPG 50V 473-J
C210	61453-131-471	C-CERAMIC.CHIP;0825 5A 470JAT MA
C211	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C212	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C213	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C214	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C215	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C216	A1100-0015	C-CERAMIC.CHIP;2012B 152K
C217	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C218	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C219	61627-204-479	C-ELEC;CEAP 16V 4.7M NP(4X7)
C220	61407-101-440	C-CERAMIC.TEMP;CC45 SL TAPG 50V 220-J
C221	61453-131-271	C-CERAMIC.CHIP;0825 5A 271JAT MA
C222	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C223	61637-204-220	C-ELEC;CEAP 16V 22M SA
C224	61507-121-341	C-POLYESTER;CO921M TAPG 50V 102-J
C225	B1102-0112	C-FILM;CO298PVT224J/ECQV1H224JZ3
C226	61507-121-341	C-POLYESTER;CO921M TAPG 50V 102-J
C227	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C228	61637-204-220	C-ELEC;CEAP 16V 22M SA
C229	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
C230	61637-204-220	C-ELEC;CEAP 16V 22M SA
C231	61637-204-220	C-ELEC;CEAP 16V 22M SA
CN201	A6010-0092	CONNECTOR-WAFER,60-8283-0612-00 WHT 6P
CN202	B6010-0254	CONNECTOR WAFER,52556-0990 WHT
D201	62169-406-482	DIODE;1N4148 SAMSUNG
D202	62169-406-482	DIODE;1N4148 SAMSUNG
D203	62169-406-482	DIODE;1N4148 SAMSUNG
D204	62169-406-482	DIODE;1N4148 SAMSUNG
D205	62169-406-482	DIODE;1N4148 SAMSUNG
D206	62169-406-482	DIODE;1N4148 SAMSUNG
D207	62169-406-482	DIODE;1N4148 SAMSUNG
D208	62169-403-830	DIODE-ZENER;MTZ6.2B
D209	62169-403-830	DIODE-ZENER;MTZ6.2B
IC201	A4012-0106	IC-LINEAR;KA8321 SIP VTR SERVO
Q201	62129-101-173	TRANSISTOR;CHIP;KSR 1104(REEL)
Q202	62129-101-173	TRANSISTOR;CHIP;KSR 1104(REEL)
Q203	62129-301-109	TRANSISTOR;CHIP;KSR 2103-(REEL)
Q204	62129-101-173	TRANSISTOR;CHIP;KSR 1104(REEL)
R201	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R203	61079-917-912	R-MG.CHIP;RMC 1/10 9.1K-J
R205	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R206	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R207	61079-917-154	R-MG.CHIP;RMC 1/10 150K-J
R208	61079-917-394	R-MG.CHIP;RMC 1/10 390K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R209	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R210	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R211	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R212	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R213	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R214	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R215	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R216	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R217	61079-917-564	R-MG.CHIP;RMC 1/10 560K-J
R218	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R219	61079-917-302	R-MG.CHIP;RMC 1/10 3K-J
R220	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R222	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R223	61079-917-202	R-MG.CHIP;RMC 1/10 2K-J
R224	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R225	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R226	61079-917-431	R-MG.CHIP;RMC 1/10 430-J
R227	61079-917-431	R-MG.CHIP;RMC 1/10 430-J
R228	61079-917-474	R-MG.CHIP;RMC 1/10 470K-J
R229	61079-917-823	R-MG.CHIP;RMC 1/10 82K-J
R230	61079-917-823	R-MG.CHIP;RMC 1/10 82K-J
R231	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R232	61079-917-154	R-MG.CHIP;RMC 1/10 150K-J
R233	61079-917-243	R-MG.CHIP;RMC 1/10 24K-J
R234	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R235	61079-917-683	R-MG.CHIP;RMC 1/10 68K-J
R236	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R237	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R238	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R239	61079-917-752	R-MG.CHIP;RMC 1/10 7.5K-J
R240	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R241	61079-917-912	R-MG.CHIP;RMC 1/10 9.1K-J
R242	61079-917-433	R-MG.CHIP;RMC 1/10 43K-J
R243	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R244	61079-917-433	R-MG.CHIP;RMC 1/10 43K-J
R245	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R246	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R247	61079-917-512	R-MG.CHIP;RMC 1/10 5.1K-J
R248	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R249	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R271	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
VR201	61246-105-473	VR-SEMI;RH0615C 47KB

TUNER PARTS

U4A1	A1282-0018	TUNER;TECC0885VA14C 85CH PAL/CCIR VS
U4A2	62565-002-318	RF-CONVERTER;RMUS 736S5EB
J4A1	63054-401-670	CABLE-COAXIAL ASSY;UL B65 AWG 30 BLK
C4A6	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
D420	62169-901-095	DIODE-CHIP;DAN202K (T96)
R4A0	61079-917-335	R-MG.CHIP;RMC 1/10 3.3M-J
R4A1	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R4A2	61079-917-432	R-MG.CHIP;RMC 1/10 4.3K-J
R4A3	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R4A5	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R4A6	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R4A7	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R4A8	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R4A9	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R4B1	61079-917-335	R-MG.CHIP;RMC 1/10 3.3M-J
R4B2	61079-917-335	R-MG.CHIP;RMC 1/10 3.3M-J
R4B3	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R4B4	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
C4A1	61637-208-100	C-ELEC;CEAP 50V 10M SA(5X11)
C4A2	B1102-0125	C-FILM;CO982P 50V T 104J-40/85
C4A3	B1102-0125	C-FILM;CO982P 50V T 104J-40/85
C4A4	B1102-0125	C-FILM;CO982P 50V T 104J-40/85
C4A5	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C4A8	B1102-0125	C-FILM;CO982P 50V T 104J-40/85
IC4A2	62119-501-561	IC-L;KA33V TAPG
L4A1	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
Q4A1	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
C4A10	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
IC4A1	62119-401-270	IC;LA7520

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION

AUDIO PARTS

C501	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C502	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C503	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C504	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C505	61507-121-481	C-POLTESTER;CO921M TAPG 50V 153-J
C506	61507-121-551	C-POLYESTER;CO921M TAPG 50V 473-J
C507	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C508	61507-121-460	C-POLYESTER;CO921M TAPG 100V 822-K
C509	61507-121-451	C-POLYESTER;CO921M TAPG 100V 682-J
C510	61507-121-451	C-POLYESTER;CO921M TAPG 100V 682-J
C511	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C512	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C513	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)
C514	61507-121-471	C-POLYESTER;CO921M TAPG 50V 103-J
C515	61637-204-330	C-ELEC;CEAP 16V 33M SA(5X11)
C516	61637-208-475	C-ELEC;CEAP 50V 0.47M SA(5X11)
C517	61507-121-350	C-POLTESTER,CO921M TAPG 100V 122-K
C518	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C519	61507-121-571	C-POLYESTER;CO921M TAPG 50V 182-J
C520	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C521	61507-121-471	C-POLYESTER;CO921M TAPG 50V 103-J
C522	61507-121-571	C-POLYESTER;CO921M TAPG 50V 182-J
C524	61507-121-471	C-POLYESTER;CO921M TAPG 50V 103-J
C525	B1102-0126	C-FILM;CO982P 100V T 682J-40/85 ECQB1682JF3
C527	61453-131-221	C-CERAMIC.CHIP;0825 5A 221JAT MA
C528	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
CD1	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
CD2	B1102-0113	C-FILM;CO298PVT475J/ECQV1475JZ3
CD3	61507-121-471	C-POLYESTER;CO921M TAPG 50V 103-J
CD4	61507-121-471	C-POLYESTER;CO921M TAPG 50V 103-J
CD5	61507-121-431	C-POLYESTER;CO921M TAPG 50V 472-J
CN501	63054-307-160	FLAT WIRE;UL2678 #26-07P 160
CN502	B6010-0436	CONNECTOR-WAFER;TMC-E02X-A1 BLK STICK
IC501	62119-103-665	IC;LA7295
L501	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
L502	62427-813-153	COIL-PEAKING;EL0607RA 15mH-J
L503	62427-813-153	COIL-PEAKING;EL0607RA 15mH-J
L504	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
LD01	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
LD02	62429-014-110	COIL BIAS OSC;B02 70KHZ W(TOKO)VX1850
OSC501	62429-014-109	COIL BIAS OSC;B01 70KHZ B(TOKO)VX1850
Q501	62137-702-020	TRANSISTOR;KSC 1008-Y TAPG
Q503	62129-101-172	TRANSISTOR,CHIP;KSC 1623G(REEL)
QD1	62137-702-020	TRANSISTOR;KSC 1008-Y TAPG
R501	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R502	61048-177-203	R-METAL FILM;RM 1/8TS 20K-J
R503	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R504	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
R505	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R506	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R507	61048-177-122	R-METAL FILM;RM 1/8TS 1.2K-J
R508	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R509	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R510	61079-917-475	R-MG.CHIP;RMC 1/10 4.7M-K
R511	61048-177-273	R-METAL FILM;RM 1/8TS 27K-J
R512	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R513	61079-917-302	R-MG.CHIP;RMC 1/10 3K-J
R514	61079-917-562	R-MG.CHIP;RMC 1/10 5.6K-J
R515	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R516	61079-917-334	R-MG.CHIP;RMC 1/10 330K-J
R517	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R518	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R519	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R520	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R521	61079-917-478	R-MG.CHIP;RMC 1/10 4.7-J
R522	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R525	61079-917-621	R-MG.CHIP;RMC 1/10 620-J
R527	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
RD1	61048-177-479	R-METAL FILM;RM 1/8TS 4.7-J
RD2	61048-177-223	R-METAL FILM;RM 1/8TS 22K-J
VR501	61246-105-473	VR-SEMI;RH0615C 47KB

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
		SECAM PARTS
C3S01	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S02	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C3S03	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S04	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S05	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S06	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C3S07	61453-131-680	C-CERAMIC.CHIP;0805 5A 680JAT MA
C3S08	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C3S09	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C3S10	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S11	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S12	61507-121-350	C-POLTESTER;CQ921M TAPG 100V 122-K
C3S13	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C3S14	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C3S15	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S16	61454-144-222	C-CERAMIC.CHIP;1206 5C 222KAT MA
C3S17	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S18	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C3S19	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S20	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C3S21	61453-131-221	C-CERAMIC.CHIP;0505 5A 221JAT MA
C3S22	61637-208-010	C-ELEC;CEAP 50V 1M SA(5X11)
C3S30	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C3S31	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S32	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3S33	61637-204-330	C-ELEC;CEAP 16V 33M SA(5X11)
C3S34	61637-204-330	C-ELEC;CEAP 16V 33M SA(5X11)
C3S35	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C3S50	A1100-0008	C-CERAMIC.CHIP;2012C 100J
C3S90	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
D3S01	62169-406-482	DIODE;1N4148 SAMSUNG
FL3S01	A1240-0073	FILTER-LC;BP 1.07M 1.07MBPF CBP1.1S-1
FL3S02	62809-006-030	COIL TUNNING;1.072 MHZ
FL3S03	62429-036-014	FILTER LC 4.3 mHZ BPF
FL3S04	62809-006-030	COIL TUNNING;1.072 MHZ
FL3S05	62809-006-020	COIL TUNNING;4.28 MHZ
FL3S06	64529-632-111	FILTER-LC DIP TYPE;4.3S
FL3S07	64527-310-010	FILTER CERAMIC;SFE4.5MB TAPG
FL3S08	A1134-0015	COIL-TRAP;7.8KHZ 23.5MH 0.018UF
IC3S01	62119-103-689	IC;BA7107S
IC3S02	A4008-0035	IC;BA7025L SIP
L3S01	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L3S02	62427-020-121	COIL PEAKING.AXIAL;LAL02TB 121J TAPG
L3S05	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
Q3S01	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3S02	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q3S03	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3S04	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3S05	62147-101-950	TRANSISTOR;KSA 643-Y TAPG
Q3S06	62137-701-023	TRANSISTOR;KSR 2004 TAPG
Q3S07	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q3S08	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
R3S01	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S02	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S03	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R3S04	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R3S05	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S06	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S07	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R3S10	61079-917-561	R-MG.CHIP;RMC 1/10 560-J
R3S11	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R3S12	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R3S13	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R3S14	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R3S15	61079-917-331	R-MG.CHIP;RMC 1/10 330-J
R3S16	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R3S17	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R3S18	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R3S19	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S20	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R3S21	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R3S22	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S23	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S24	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R3S25	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R3S26	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R3S27	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R3S28	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R3S29	61079-917-272	R-MG.CHIP;RMC 1/10 2.7K-J
R3S30	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R3S31	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
R3S32	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R3S33	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S34	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3S35	61079-917-823	R-MG.CHIP;RMC 1/10 82K-J
R3S36	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R3S37	61079-917-154	R-MG.CHIP;RMC 1/10 150K-J
R3S38	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R3S39	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R3S41	61079-917-00	R-MG.CHIP;RMC 1/10 000
R3S42	61079-917-00	R-MG.CHIP;RMC 1/10 000
R3S50	61079-917-223	R-MG.CHIP;RMC 1/10 22K-J
VR3S01	61246-105-223	VR-SEMI;PT0615C 22K
		LUMA/CHROMA PARTS
C3V02	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V03	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V04	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
C3V05	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C3V49	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
D3V01	62169-406-482	DIODE;1N4148 SAMSUNG
FL3V01	64569-006-011	DELAY LINE;MS-31PC-5K
L3V01	62427-020-150	COIL PEAKING.AXIAL;LAL02TB 150J TAPG
L3V02	62427-020-150	COIL PEAKING.AXIAL;LAL02TB 150J TAPG
Q3V01	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q3V02	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q3V03	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
R3N22	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R3V01	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R3V04	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3V05	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R3V06	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
		I/O (MAIN PCB) PARTS
DC01	62169-406-482	DIODE;1N4148 SAMSUNG
DC02	62169-406-482	DIODE;1N4148 SAMSUNG
DC03	62169-406-482	DIODE;1N4148 SAMSUNG
RC01	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
RC02	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
RC03	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
		SYNC DET. PARTS (OPTION)
C3SY1	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C3SY2	61617-406-476	C-ELEC;CEAP 50V 0.47M RSS(4X7)
D3SY1	62169-406-482	DIODE;1N4148 SAMSUNG
Q3SY1	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q3SY2	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q3SY3	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q3SY4	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q3SY5	62137-701-013	TRANSISTOR;KSR 1004 TAPG
R3SY1	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R3SY2	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R3SY3	61079-917-470	R-MG.CHIP;RMC 1/10 47-J
R3SY4	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R3SY5	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R3SY6	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R3SY7	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
601	69312-302-295	ASSY PRE-AMP;4H'd (VK-350/VK-330)
C301	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C302	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C303	A1100-0060	C-CERAMIC.CHIP;2012C 820J
C304	A1100-0060	C-CERAMIC.CHIP;2012C 820J
C305	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C306	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C307	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C308	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C309	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C310	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C311	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C312	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C313	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C314	61637-606-010	C-ELEC;CEAP 50V 1M SE(4X5)
C315	61637-606-010	C-ELEC;CEAP 50V 1M SE(4X5)
C316	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C317	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C318	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C319	61453-130-474	C-CERAMIC.CHIP;0805 5C 473MAT 050M
C320	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C321	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C322	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C323	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C324	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C325	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C326	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C327	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C328	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C329	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT MA
C330	61453-131-100	C-CERAMIC.CHIP;0805SA10UJAT050M
C331	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C332	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT MA
C333	61453-131-680	C-CERAMIC.CHIP;0805 5A 680JAT MA
C336	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
C337	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C338	A1100-0060	C-CERAMIC.CHIP;2012C 820J
C339	61453-131-100	C-CERAMIC.CHIP;0805SA100JAT050M
C340	61453-131-180	C-CERAMIC.CHIP;0805 5A 180JAT MA
C341	A1100-0053	C-CERAMIC.CHIP;2012C 390J
C342	61453-131-181	C-CERAMIC.CHIP;0805 5A 181JAT MA
C344	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C345	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C346	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C347	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C348	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT MA
C349	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C350	61453-131-100	C-CERAMIC.CHIP;0805SA100JAT050M
C351	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT MA
C353	61453-131-181	C-CERAMIC.CHIP;0805 5A 181JAT MA
C354	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C355	61627-206-010	C-ELEC;CEAP 50V 1M NP(6X11)
C356	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C359	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C360	61637-608-338	C-ELEC;CEAP 50V 0.33M SV(5X9)
C361	A1100-0080	C-CERAMIC.CHIP;2012C 820J
C362	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C363	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C364	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C365	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C366	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C367	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C368	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C369	61453-131-751	C-CERAMIC.CHIP;0805 5A 750JAT MA
C370	61617-406-019	C-ELEC;CEAP 50V 0.1M RSS(4X7)
C371	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C372	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C373	61617-406-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C374	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C376	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C379	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C398	61454-139-209	C-CERAMIC.CHIP;0805 5A 270JAT MA

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
C399	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT MA
CN301	63548-251-080	CONNECTOR-WAFER;52045-0810
CN302	A6010-0365	CONNECTOR-WAFER;GC200-15PLS WHT
CN303	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
CN304	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
D301	62169-406-482	DIODE;1N4148 SAMSUNG
D302	62169-406-482	DIODE;1N4148 SAMSUNG
D303	62169-406-482	DIODE;1N4148 SAMSUNG
D305	62169-406-482	DIODE;1N4148 SAMSUNG
D306	62169-406-482	DIODE;1N4148 SAMSUNG
IC301	B4012-0044	IC-LINER;BA7275S DIP
IC302	A4010-0009	IC-HYBRID;SVH-350 DIP
IC303	B4008-0432	IC;MSM 7403RS SIP
L301	62427-812-471	COIL-PEAKING,EL0606RA 470uH-J
L302	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L303	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L304	62427-020-560	COIL PEAKING.AXIAL;LAL02TB 560J TAPG
L306	62427-812-331	COIL-PEAKING;EL0606RA 330uH-J
L307	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L308	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L309	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L310	62427-020-101	COIL PEAKING.AXIAL;LAL02TB 101J TAPG
L311	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L312	62427-020-820	COIL PEAKING.AXIAL;LAL02TB 820J TAPG
L313	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L314	62427-020-560	COIL PEAKING.AXIAL;LAL02TB 560J TAPG
L315	62427-020-680	COIL PEAKING.AXIAL;LAL02TB 680J TAPG
L316	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L317	62427-020-339	COIL PEAKING.AXIAL;LAL02TB 3R3J TAPG
L399	62427-020-820	COIL PEAKING.AXIAL;LAL02TB 820J TAPG
Q301	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q302	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q305	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q306	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q307	62129-101-060	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q308	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q309	62129-101-060	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q310	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q311	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q312	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q313	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q314	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q315	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q317	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q318	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q322	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q323	62129-101-060	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q330	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q331	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
R301	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R302	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R303	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R304	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R305	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R306	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R307	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R308	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R309	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R310	61079-917-181	R-MG.CHIP;RMC 1/10 180-J
R311	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R312	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R313	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R314	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R315	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R316	61079-917-181	R-MG.CHIP;RMC 1/10 180-J
R317	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R318	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R319	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R320	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R321	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R322	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R323	61079-917-000	R-MG.CHIP;RMC 1/10 000
R324	61079-917-471	R-MG.CHIP;RMC 1/10 470-J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R325	61079-917-751	R-MG.CHIP;RMC 1/10 750-J
R326	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R327	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R328	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R329	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R330	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R331	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R332	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R333	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R334	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R335	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R336	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R337	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R338	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R339	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R340	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R341	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R342	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R343	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R344	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R345	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R346	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R347	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R348	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R349	61048-177-182	R-METAL FILM;RM 1/8TS 1.8K-J
R350	61048-177-333	R-METAL FILM;RM 1/8TS 33K-J
R352	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R353	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R354	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R356	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R396	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R399	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
XT301	64539-012-079	X-TAL;4.43 3619MHZ 8PPM TAPG

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601	69312-302-209	ASSY PRE AMP;2H'd (VX-320/VX-300)
C302	A1100-0010	C-CERAMIC.CHIP;2012B 102K
C303	A1100-0080	C-CERAMIC.CHIP;2012C 820J
C304	A1100-0080	C-CERAMIC.CHIP;2012C 820J
C305	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C306	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C309	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C311	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C312	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C313	61079-917-000	R-MG.CHIP;RMC 1/10 000
C314	61637-808-010	C-ELEC;CEAP 50V 1M SE(4X5)
C315	61637-808-010	C-ELEC;CEAP 50V 1M SE(4X5)
C316	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C317	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C318	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C319	61453-130-474	C-CERAMIC.CHIP;0805 5C 470MAT 050M
C320	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C321	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C322	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C323	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C324	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C325	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C326	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C327	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C328	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C329	61453-131-221	C-CERAMIC.CHIP;0805 5A 221JAT MA
C330	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C331	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C332	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT MA
C333	61453-131-680	C-CERAMIC.CHIP;0805 5A 680JAT MA
C336	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
C337	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C338	A1100-0080	C-CERAMIC.CHIP;2012C 820J
C339	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C340	61453-131-180	C-CERAMIC.CHIP;0805 5A 180JAT MA
C341	A1100-0053	C-CERAMIC.CHIP;2012C 390J

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
C342	61453-131-181	C-CERAMIC.CHIP;0805 5A 181JAT MA
C344	A1100-0038	C-CERAMIC.CHIP;2012C 151J
C345	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C346	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C347	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C348	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT MA
C349	A1100-0017	C-CERAMIC.CHIP;2012F 104Z
C350	61453-131-100	C-CERAMIC.CHIP;08055A100JAT050M
C353	61453-131-181	C-CERAMIC.CHIP;0805 5A 181JAT MA
C354	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C355	61627-208-010	C-ELEC;CEAP 50V 1M NP(6X11)
C358	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C359	61637-206-100	C-ELEC;CEAP 35V 10M SA(5X11)
C360	61637-608-336	C-ELEC;CEAP 50V 0.33M SV(5X9)
C361	A1100-0080	C-CERAMIC.CHIP;2012C 820J
C362	A1100-0009	C-CERAMIC.CHIP;2012C 101J
C363	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C364	61453-131-103	C-CERAMIC.CHIP;0805 5C 103KAT MA
C365	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
C366	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C367	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C368	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C369	61453-131-751	C-CERAMIC.CHIP;0805 5A 750JAT MA
C370	61617-408-019	C-ELEC;CEAP 50V 0.1M RSS(4X7)
C372	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C373	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C374	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C376	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C379	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C398	61454-139-209	C-CERAMIC.CHIP;0805 5A 2R0CAT MA
C399	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT MA
CN301	60348-231-040	CONNECTOR-WAFER;52045-0410
CN302	A6010-0365	CONNECTOR-WAFER;GC200-15PLS WHT
CN303	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
CN304	A6010-0264	CONNECTOR WAFER;GC200-10P-LS WHT
D301	62169-406-482	DIODE;1N4148 SAMSUNG
D302	62169-406-482	DIODE;1N4148 SAMSUNG
D303	62169-406-482	DIODE;1N4148 SAMSUNG
D305	62169-406-482	DIODE;1N4148 SAMSUNG
D306	62169-406-482	DIODE;1N4148 SAMSUNG
IC301	B4012-0044	IC-LINER;BA7277S DIP
IC302	A4010-0009	IC-HYBRID;SVH-350 DIP
IC303	B4008-0432	IC;MSM 7403RS SIP
L301	62427-812-471	COIL-PEAKING;EL0606RA 470uH-J
L302	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L303	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L304	62427-020-560	COIL PEAKING.AXIAL;LAL02TB 560J TAPG
L306	62427-812-331	COIL-PEAKING;EL0606RA 330uH-J
L307	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L308	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L309	62427-020-220	COIL PEAKING.AXIAL;LAL02TB 220J TAPG
L310	62427-020-101	COIL PEAKING.AXIAL;LAL02TB 101J TAPG
L311	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L312	62427-020-820	COIL PEAKING.AXIAL;LAL02TB 820J TAPG
L313	62427-020-221	COIL PEAKING.AXIAL;LAL02TB 221J TAPG
L314	62427-020-560	COIL PEAKING.AXIAL;LAL02TB 560J TAPG
L315	62427-020-680	COIL PEAKING.AXIAL;LAL02TB 680J TAPG
L316	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L317	62427-020-339	COIL PEAKING.AXIAL;LAL02TB 3R3J TAPG
L399	62427-020-820	COIL PEAKING.AXIAL;LAL02TB 820J TAPG
Q302	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q305	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q306	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q307	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q309	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)
Q311	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q314	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q317	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q318	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q319	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)
Q320	62129-101-130	TRANSISTOR.CHIP;KSR 2102 (REEL)
Q322	62129-101-172	TRANSISTOR.CHIP;KSC 1623G(REEL)
Q323	62129-101-080	TRANSISTOR.CHIP;KSA 812-G(REEL)

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
R301	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R302	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R303	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R304	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R305	61079-917-121	R-MG.CHIP;RMC 1/10 120-J
R307	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R308	61079-917-511	R-MG.CHIP;RMC 1/10 510-J
R309	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R310	61079-917-181	R-MG.CHIP;RMC 1/10 180-J
R311	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R312	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R314	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R315	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R316	61079-917-181	R-MG.CHIP;RMC 1/10 180-J
R317	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R318	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R319	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R320	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R321	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R322	61079-917-182	R-MG.CHIP;RMC 1/10 1.8K-J
R323	61079-917-000	R-MG.CHIP;RMC 1/10 000
R324	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R325	61079-917-751	R-MG.CHIP;RMC 1/10 750-J
R326	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R327	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R328	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R329	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R330	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R331	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R332	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R334	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R335	61079-917-333	R-MG.CHIP;RMC 1/10 33K-J
R336	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R337	61079-917-152	R-MG.CHIP;RMC 1/10 1.5K-J
R338	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R339	61079-917-911	R-MG.CHIP;RMC 1/10 910-J
R341	61079-917-392	R-MG.CHIP;RMC 1/10 3.9K-J
R342	61079-917-472	R-MG.CHIP;RMC 1/10 4.7K-J
R343	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R344	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R345	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R346	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R347	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R348	61079-917-271	R-MG.CHIP;RMC 1/10 270-J
R349	61048-177-182	R-METAL FILM;RM 1/8TS 1.8K-J
R350	61048-177-333	R-METAL FILM;RM 1/8TS 33K-J
R352	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R353	61079-917-822	R-MG.CHIP;RMC 1/10 8.2K-J
R354	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R356	61079-917-471	R-MG.CHIP;RMC 1/10 470-J
R396	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R399	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
XT301	64539-012-079	X-TAL;4.43 3619MHZ 8PPM TAPG

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602	69353-302-201	ASSY OSP,X-3 W-PAL (OPTION)
C901	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C902	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C903	61453-131-270	C-CERAMIC.CHIP;0805 5A 270JAT MA
C904	61453-131-220	C-CERAMIC.CHIP;0805 5A 220JAT MA
C905	61453-130-034	C-CERAMIC.CHIP;0805 5C 103JAT MA
C906	61453-130-034	C-CERAMIC.CHIP;0805 5C 103JAT MA
C907	61617-408-229	C-ELEC;CEAP 50V 2.2M RSS(4X7)
C908	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C909	61507-121-341	C-POLYESTER;CO921M TAPG 50V 102-J
C910	61507-121-420	C-POLYESTER;CO921M TAPG 100V 392-K
C911	61453-130-121	C-CERAMIC.CHIP;0805 5A 121JAT MA
C912	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C913	61453-131-471	C-CERAMIC.CHIP;0805 5A 470JAT MA
C914	A1100-0004	C-CERAMIC.CHIP;2012C 560J
C915	61453-131-821	C-CERAMIC.CHIP;0805 5A 820JAT MA

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
C916	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C917	61617-408-478	C-ELEC;CEAP 50V 0.47M RSS(4X7)
C918	A1102-0148	C-FILM;CF 922 P 100V T 104-J /C-M 565
C919	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C920	61453-130-034	C-CERAMIC.CHIP;0805 5C 103JAT MA
C921	61627-204-479	C-ELEC;CEAP 16V 4.7M NP(4X7)
C922	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C923	61453-130-034	C-CERAMIC.CHIP;0805 5C 103JAT MA
C924	61453-130-034	C-CERAMIC.CHIP;0805 5C 103JAT MA
C927	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C928	A1100-0044	C-CERAMIC.CHIP;2012B 223K
C929	61637-204-100	C-ELEC;CEAP 16V 10M SA(5X11)
CN901	A6010-0363	CONNECTOR-WAFER;GC200-12P LS WHT
D901	62169-406-482	DIODE;1N4148 SAMSUNG
D902	62169-406-482	DIODE;1N4148 SAMSUNG
D903	62169-406-482	DIODE;1N4148 SAMSUNG
D904	62169-406-482	DIODE;1N4148 SAMSUNG
D905	62169-406-482	DIODE;1N4148 SAMSUNG
D906	62169-406-482	DIODE;1N4148 SAMSUNG
D907	62169-406-482	DIODE;1N4148 SAMSUNG
IC901	A4006-0995	IC;KS5513C DIP
L901	62427-020-330	COIL PEAKING.AXIAL;LAL02TB 330J TAPG
L902	62427-020-150	COIL PEAKING.AXIAL;LAL02TB 150J TAPG
L903	62427-020-120	COIL PEAKING.AXIAL;LAL02TB 120J TAPG
L904	62427-812-100	COIL-PEAKING EL0606RA 10uH-J
L905	62429-833-101	COIL-PEAKING AXIAL;BAL04ST 101K
L906	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
Q901	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q902	62137-103-580	TRANSISTOR;KSA 733-Y TAPG
Q903	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q904	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q905	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
R901	61079-917-122	R-MG.CHIP;RMC 1/10 1.2K-J
R902	61079-917-821	R-MG.CHIP;RMC 1/10W 820-J
R903	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R904	61079-917-682	R-MG.CHIP;RMC 1/10 6.8K-J
R905	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R906	61079-917-153	R-MG.CHIP;RMC 1/10 15K-J
R907	61079-917-123	R-MG.CHIP;RMC 1/10 12K-J
R908	61079-917-681	R-MG.CHIP;RMC 1/10 680-J
R910	61079-917-273	R-MG.CHIP;RMC 1/10 27K-J
R911	61079-917-622	R-MG.CHIP;RMC 1/10 6.2K-J
R912	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R913	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R914	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R915	61079-917-224	R-MG.CHIP;RMC 1/10 220K-J
R916	61079-917-101	R-MG.CHIP;RMC 1/10 100-J
R917	61079-917-183	R-MG.CHIP;RMC 1/10 18K-J
R918	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R919	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R921	61079-917-203	R-MG.CHIP;RMC 1/10 20K-J
R922	61079-917-393	R-MG.CHIP;RMC 1/10 39K-J
R923	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R924	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R925	61079-917-563	R-MG.CHIP;RMC 1/10 56K-J
R926	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R927	61079-917-102	R-MG.CHIP;RMC 1/10 1K-J
R933	61079-917-222	R-MG.CHIP;RMC 1/10 2.2K-J
R936	61079-917-103	R-MG.CHIP;RMC 1/10 10K-J
R937	61079-917-473	R-MG.CHIP;RMC 1/10 47K-J
R947	61079-917-680	R-MG.CHIP;RMC 1/10 68-J
R948	61079-917-105	R-MG.CHIP;RMC 1/10 1M-J
R951	61079-917-104	R-MG.CHIP;RMC 1/10 100K-J
R953	61079-917-332	R-MG.CHIP;RMC 1/10 3.3K-J
XT901	64539-012-543	CRYSTAL;17.734475M(20ppm)

LOCA NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
603	69026-302-203	ASSY I/O;X-3 W-PAL
C4301	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4302	61617-405-479	C-ELEC;CEAP 25V 4.7M RSS(4X7)
C4303	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4304	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C4305	61407-117-228	C-CERAMIC,AXIAL;CK OA F 25V 223Z/F 25V 203ZT
C4306	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4307	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4308	61617-404-470	C-ELEC;CEAP 16V 47M RSS(6.3X7)
C4309	61407-117-228	C-CERAMIC,AXIAL;CK OA F 25V 223Z/F 25V 203ZT
C4310	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4311	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4313	61407-117-102	C-CERAMIC,AXIAL;CAX B TAPG 102-K
C4315	61407-117-102	C-CERAMIC,AXIAL;CAX B TAPG 102-K
C4316	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4317	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4318	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4320	61407-117-102	C-CERAMIC,AXIAL;CAX B TAPG 102-K
C4321	61637-502-471	C-ELEC;CEAP 6.3V 470M SG(8X11.5)
C4322	61637-602-471	C-ELEC;CEAP 6.3V 470M SV(10X9)
C4323	61617-404-101	C-ELEC;CEAP 16V 100M RSS(6.3X7)
C4324	61407-105-320	C-CERAMIC,TEMP;CC45 CH TAPG 50V 82-J
C4326	61407-117-223	C-CERAMIC,AXIAL;CAX B TAPG 50V 223-K
C4327	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C4328	61407-101-460	C-CERAMIC,TEMP;CC45 SL TAPG 50V 270-J
C4330	61637-205-470	C-ELEC;CEAP 25V 47M SA(6X11)
CN4301	A6010-0365	CONNECTOR-WAFER;GC200-15PLS WHT
CN4302	A6010-0365	CONNECTOR-WAFER;GC200-15PLS WHT
D4301	62169-406-482	DIODE;1N4148 SAMSUNG
IC4301	62119-401-310	IC;KA8403
IC4302	62119-401-310	IC;KA8403
JC4301	A3040-0054	JACK-SCART;DSR-9102(S) BLK 21P
JC4302	A3040-0004	JACK PIN;DSP-8805-03(YEL)
JC4303	A3040-0003	JACK PIN;DSP-8805-03(WHT)
L4301	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
L4302	62427-812-101	COIL-PEAKING;EL0606RA 100uH-J
L4309	62427-812-180	COIL-PEAKING;EL0606RA 18uH-J
Q4301	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4302	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4303	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q4304	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
Q4305	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q4306	62137-701-020	TRANSISTOR;KSR 2001 TAPG
Q4307	62137-103-380	TRANSISTOR;KSA 733-Y TAPG
R4301	61048-177-751	R-METAL FILM;RM 1/8TS 750-J
R4303	61048-177-122	R-METAL FILM;RM 1/8TS 1.2K-J
R4305	61048-177-122	R-METAL FILM;RM 1/8TS 1.2K-J
R4306	61048-177-224	R-METAL FILM;RM 1/8TS 220K-J
R4307	61048-177-750	R-METAL FILM;RM 1/8TS 75-J
R4310	61048-177-473	R-METAL FILM;RM 1/8TS 47K-J
R4311	61048-177-751	R-METAL FILM;RM 1/8TS 750-J
R4312	61048-177-820	R-METAL FILM;RM 1/8TS 82-J
R4313	61048-177-820	R-METAL FILM;RM 1/8TS 82-J
R4314	61048-177-820	R-METAL FILM;RM 1/8TS 82-J
R4315	61048-177-820	R-METAL FILM;RM 1/8TS 82-J
R4316	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R4317	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R4318	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R4319	61048-177-102	R-METAL FILM;RM 1/8TS 1K-J
R4320	61048-177-471	R-METAL FILM;RM 1/8TS 470-J
R4321	61048-177-471	R-METAL FILM;RM 1/8TS 470-J
R4322	61048-177-471	R-METAL FILM;RM 1/8TS 470-J
R4323	61048-177-511	R-METAL FILM;RM 1/8TS 510-J
R4324	61048-177-911	R-METAL FILM;RM 1/8TS 910-J
R4325	61048-277-821	R-METAL FILM;RM 1/4T 820-J
R4326	61048-177-203	R-METAL FILM;RM 1/8TS 20K-J
R4328	61048-177-681	R-METAL FILM;RM 1/8TS 680-J
R4329	61048-177-820	R-METAL FILM;RM 1/8TS 82-J
R4332	61048-177-103	R-METAL FILM;RM 1/8TS 10K-J
R4333	61048-177-473	R-METAL FILM;RM 1/8TS 47K-J
R4334	61048-177-121	R-METAL FILM;RM 1/8TS 120-J
R4335	61048-177-271	R-METAL FILM;RM 1/8TS 270-J
ZD4301	62169-402-824	DIODE-ZENER;MTZ 9.1B

LOCA NO	PART-NUMBER	DESCRIPTION,SPECIFICATION
604	69022-302-222	ASSY IF PACK;X-3 W-PAL B/G+D/K
C401	61453-131-103	C-CERAMIC,CHIP;0805 5C 103KAT MA
C402	61453-131-103	C-CERAMIC,CHIP;0805 5C 103KAT MA
C404	61453-131-103	C-CERAMIC,CHIP;0805 5C 103KAT MA
C406	A1100-0017	C-CERAMIC,CHIP;2012F 104Z
C407	B1102-0125	C-FILM;CQ932P 50V T 104J-40/85 ECQV1H104JZ3
C408	61617-408-229	C-ELEC;CEAP 50V 2.2M RSS(4X7)
C409	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C410	61617-408-010	C-ELEC;CEAP 50V 1M RSS(4X7)
C411	61453-131-690	C-CERAMIC,CHIP;0805A5R0CAT050M
C415	61507-121-471	C-POLYESTER;CQ921M TAPG 50V 103-J
C417	61617-404-100	C-ELEC;CEAP 16V 10M RSS(4X7)
C418	61453-131-270	C-CERAMIC,CHIP;0805 5A 270JAT MA
C419	A1100-0017	C-CERAMIC,CHIP;2012F 104Z
C429	61637-204-470	C-ELEC;CEAP 16V 47M SA(5X11)
C430	A1100-0017	C-CERAMIC,CHIP;2012F 104Z
CN401	A6010-0414	CONNECTOR-WAFER;GC250-11P-LS-S1-MO GRY
CN402	A6010-0414	CONNECTOR-WAFER;GC250-11P-LS-S1-MO GRY
D401	62169-406-482	DIODE;1N4148 SAMSUNG
D402	62169-406-482	DIODE;1N4148 SAMSUNG
FL401	B1245-0005	FILTER-SAW;SAF 38.9MZA80Z
FL402	64527-101-001	FILTER CERAMIC TRAP;TPS 5.5MB TAPG
FL403	64527-102-001	FILTER-CERAMIC TRAP;TPS 6.5MB TAPG
FL437	64527-103-001	FILTER CERAMIC;SFE 5.5MB TAPG
FL438	64529-425-030	FILTER-CERAMIC;SFE 6.5MB
IC401	B4012-0046	IC-LINER,TDA 9800 DIP
L401	62427-812-109	COIL-PEAKING;EL0606RA 10uH-K
L402	62427-812-139	COIL-PEAKING;EL0606RA 1.3uH-K
L403	62427-010-229	COIL-PEAKING AXIAL;LAL02 TB 2.2UH TAPG
L405	62427-812-270	COIL-PEAKING;EL0606RA 27uH-J
L406	62427-812-629	COIL-PEAKING;EL0606RA 6.2uH-J
Q401	62137-702-010	TRANSISTOR;KTC 3197-AT(TAPG)
Q402	62137-302-740	TRANSISTOR;KSC 945-Y TAPG
Q403	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q405	62137-701-013	TRANSISTOR;KSR 1004 TAPG
Q406	62137-701-011	TRANSISTOR;KSR 1002 TAPG
R401	61079-917-101	R-MG CHIP;RMC 1/10 100-J
R402	61079-917-271	R-MG CHIP;RMC 1/10 270-J
R403	61079-917-562	R-MG CHIP;RMC 1/10 5.6K-J
R404	61079-917-152	R-MG CHIP;RMC 1/10 1.5K-J
R405	61079-917-391	R-MG CHIP;RMC 1/10 390-J
R406	61079-917-390	R-MG CHIP;RMC 1/10 39-J
R407	61079-917-103	R-MG CHIP;RMC 1/10 10K-J
R408	61079-917-222	R-MG CHIP;RMC 1/10 2.2K-J
R409	61079-917-151	R-MG CHIP;RMC 1/10 150-J
R410	61079-917-181	R-MG CHIP;RMC 1/10 180-J
R411	61079-917-622	R-MG CHIP;RMC 1/10 6.2K-J
R413	61079-917-201	R-MG CHIP;RMC 1/10 200-J
R414	61079-917-331	R-MG CHIP;RMC 1/10 330-J
R415	61079-917-223	R-MG CHIP;RMC 1/10 22K-J
R416	61079-917-223	R-MG CHIP;RMC 1/10 22K-J
R417	61079-917-104	R-MG CHIP;RMC 1/10 100K-J
R418	61079-917-333	R-MG CHIP;RMC 1/10 33K-J
R419	61079-917-153	R-MG CHIP;RMC 1/10 15K-J
R420	61079-917-823	R-MG CHIP;RMC 1/10 82K-J
R421	61079-917-561	R-MG CHIP;RMC 1/10 560-J
R424	61079-917-103	R-MG CHIP;RMC 1/10 10K-J
R425	61048-177-332	R-METAL FILM;RM 1/8TS 3.3K-J
TL401	A1197-0001	TRANS-DET A;M7T1/33301
VR401	61246-106-473	VR-SEMI;RH0614C 47KB

6. MECHANICAL EXPLODED VIEW/ PARTS LIST

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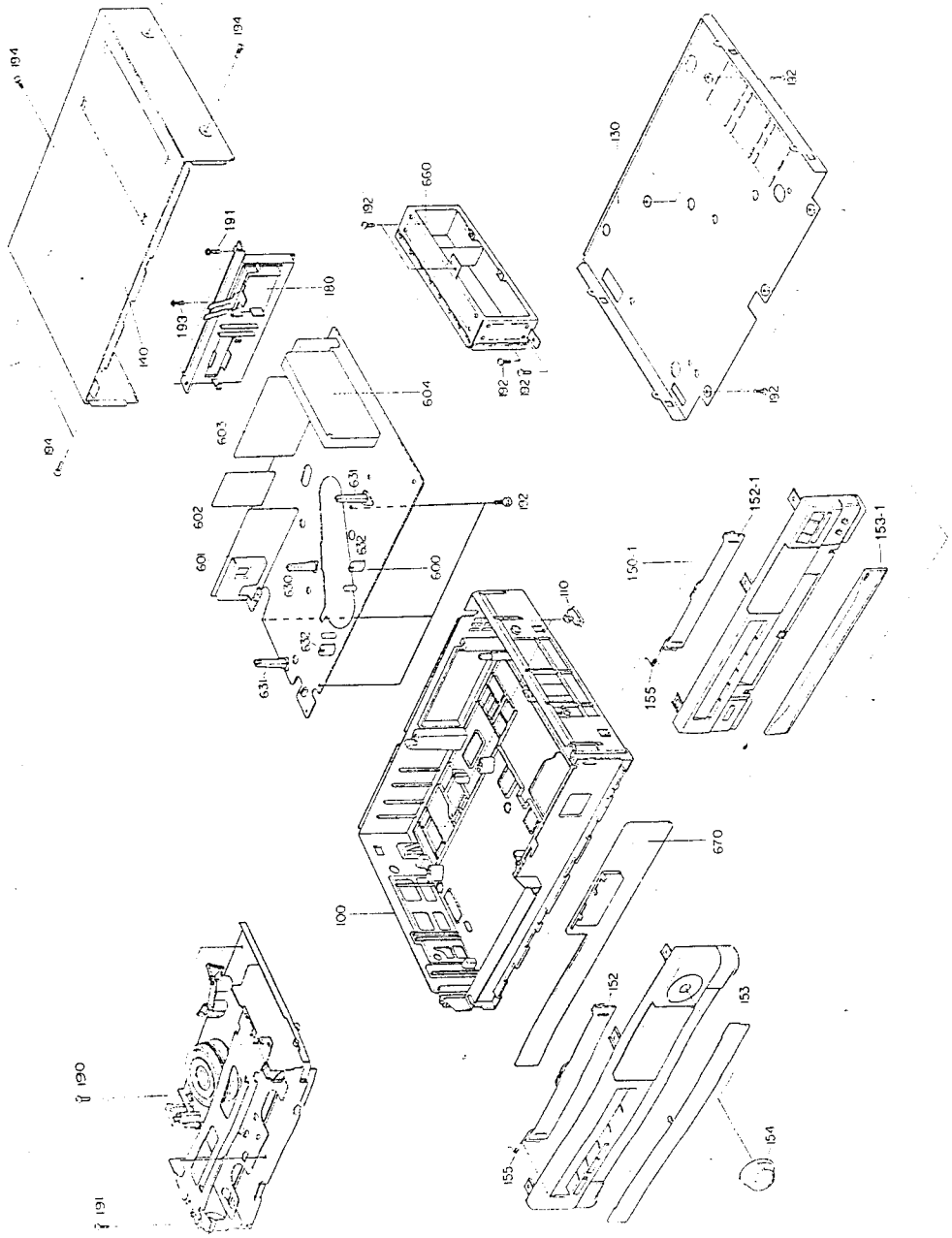
6-2. Mechanical Parts (1) ; Top View - - - - - - - - - 6-4

6-3. Mechanical Parts (2) ; Bottom View - - - - - - 6-6

6-4. Housing Assembly - - - - - - - - - - - - - - - - - - - 6-8

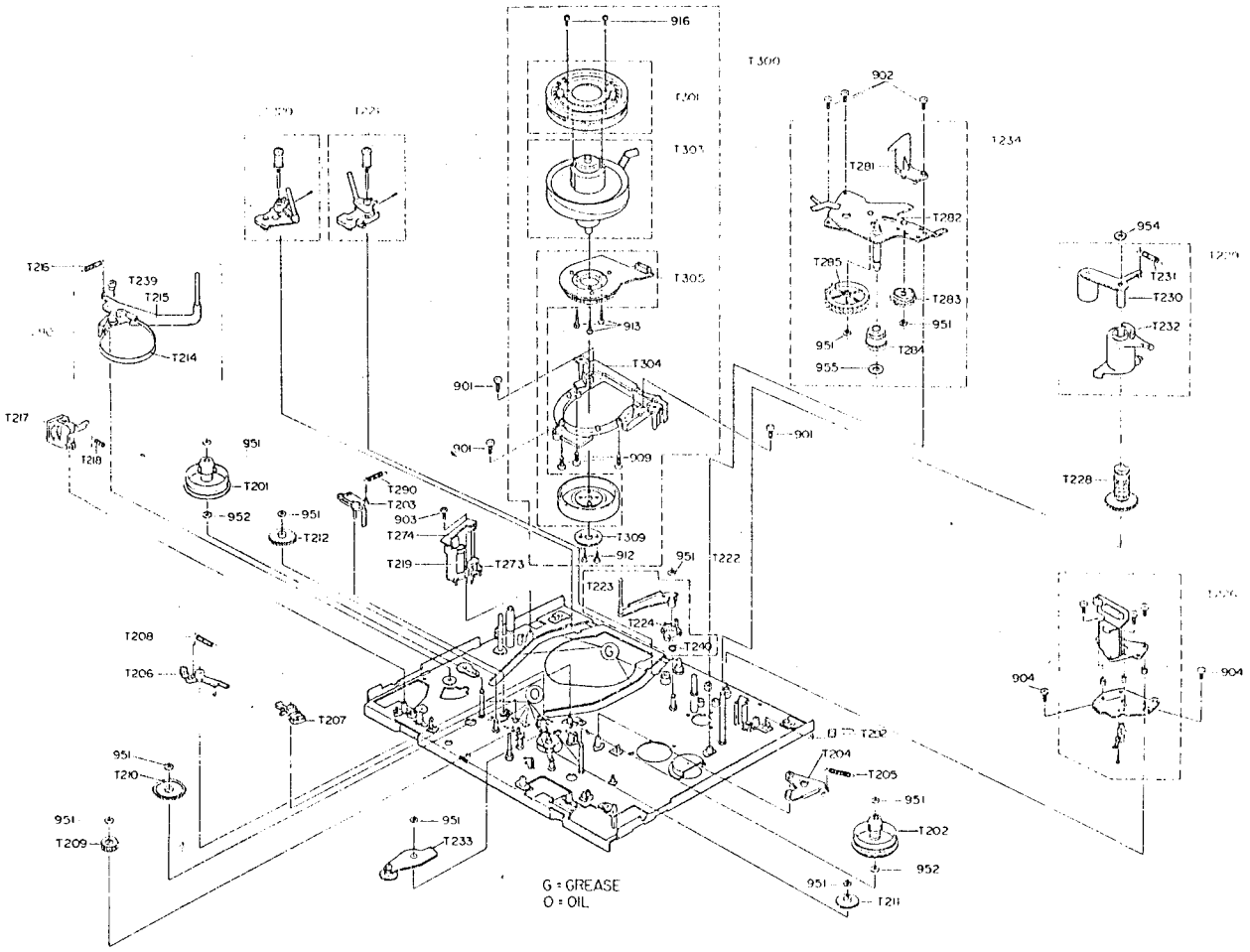
6-1. Instrument Assembly



LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
100	62210-0031-00	FRAME;HIPS 94HB
110	66074-601-410	LEG;VT-1260 TPE(BLK)7705
130	63312-0032-00	COVER-BOTTOM;SECC T0.5
140	62002-0009-00	CABINET-TOP;PVC+SECC T0.75
150	**********	ASSY PANEL FRONT
152	**********	DOOR-CASSETTE;ABS94HB T2.2
153	**********	DOOR-FRONT;ABS94HB T2.2 GRY
154	62233-0003-02	SHUTTER-RING;ABS94HB SPRAY
155	62724-0090-00	MASK SPRING;SUS 304(GE/RCA)
160	69333-100-101	ASSY PART CON-BOARD;HIPS94HB+PVC
190	67158-240-121	SCREW BH;2-4*12 FE FZY
191	60504-0040-00	SCREW-TAP TITE;BH + TB 3 L12 SWRCH18A ZPC3 YEL
192	67158-230-120	SCREW-TAP TITE BH;3X10 FE FZY
193	67154-101-410	SCREW-TAP.PWH;2S-3X6 FE FZY
194	67158-240-163	SCREW-TAP BH;2-4X16 FE FZB
200	DX3W-R	FULL DECK ASSY;NTSC WINNER DECK
600	**********	ASSY MAIN;W-PAL/ME/SECAM B/G D/K
601	69312-302-235	ASSY PRE-AMP; 4HD (VK-350/VK-330)
	69312-302-209	ASSY PRE-AMP; 2HD (VK-320/VK-300)
602	69353-302-201	ASSY OSP;X-3 W-PAL (OPTION)
603	69326-302-203	ASSY I/O;X-3 W-PAL
604	69322-302-222	ASSY IF PACK;X-3 W-PAL B/G+D/K
630	63323-0059-00	HOLDER LED;POM M90-44 H37.6 BLK(WINNER)
631	63323-0061-00	HOLDER TR;POM M90-44 H37.2 BLK(WINNER)
632	63323-0060-00	HOLDER PHOTO INTER;POM M90-44 H14.1 WHT
660	69098-220-500	REGULATOR ASSY;X-3 100-240V CP2 EURO
670	**********	ASSY F/TIMER;X-3 PAL

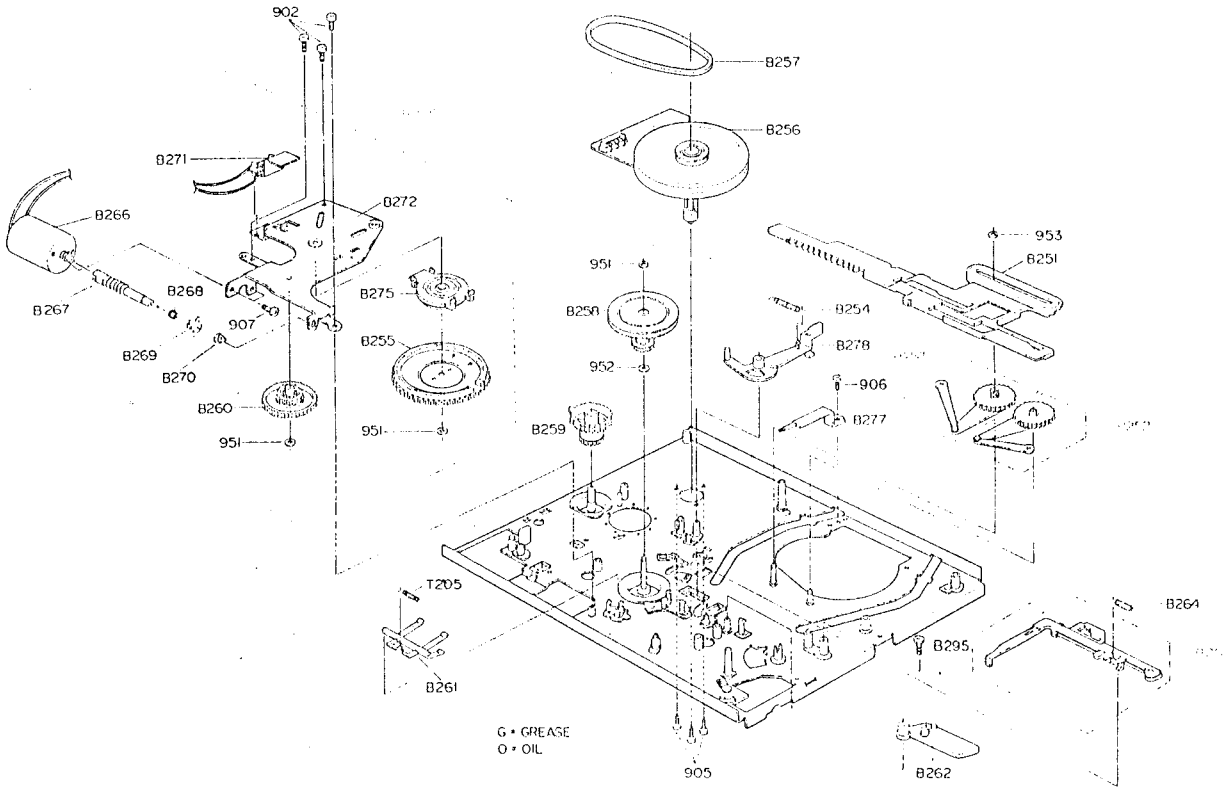
********** ; Refer to Table Below

LOCA-NO / ITEM / MODEL	150	152	153	600	670
	ASS'Y PANEL-FRONT	DOOR-CASSETTE	DOOR-FRONT	ASS'Y MAIN	ASS'Y F/TIMER
VK-350	69000 - 302 - 299	64043 - 0043 - 01	64042 - 0041 - 16	69357 - 302 - 252	69371 - 302 - 234
VK-330	69000 - 302 - 309	64043 - 0093 - 03	64042 - 0065 - 12	69357 - 302 - 217	69371 - 302 - 233
VK-320	69000 - 302 - 300	64043 - 0043 - 06	64042 - 0041 - 17	69357 - 302 - 251	69371 - 302 - 232
VK-320/APS,MAR	69000 - 302 - 300	64043 - 0043 - 06	64042 - 0041 - 17	69357 - 302 - 276	69371 - 302 - 232
VK-300	69000 - 302 - 260	64043 - 0093 - 02	64042 - 0065 - 03	69357 - 302 - 216	69371 - 302 - 231



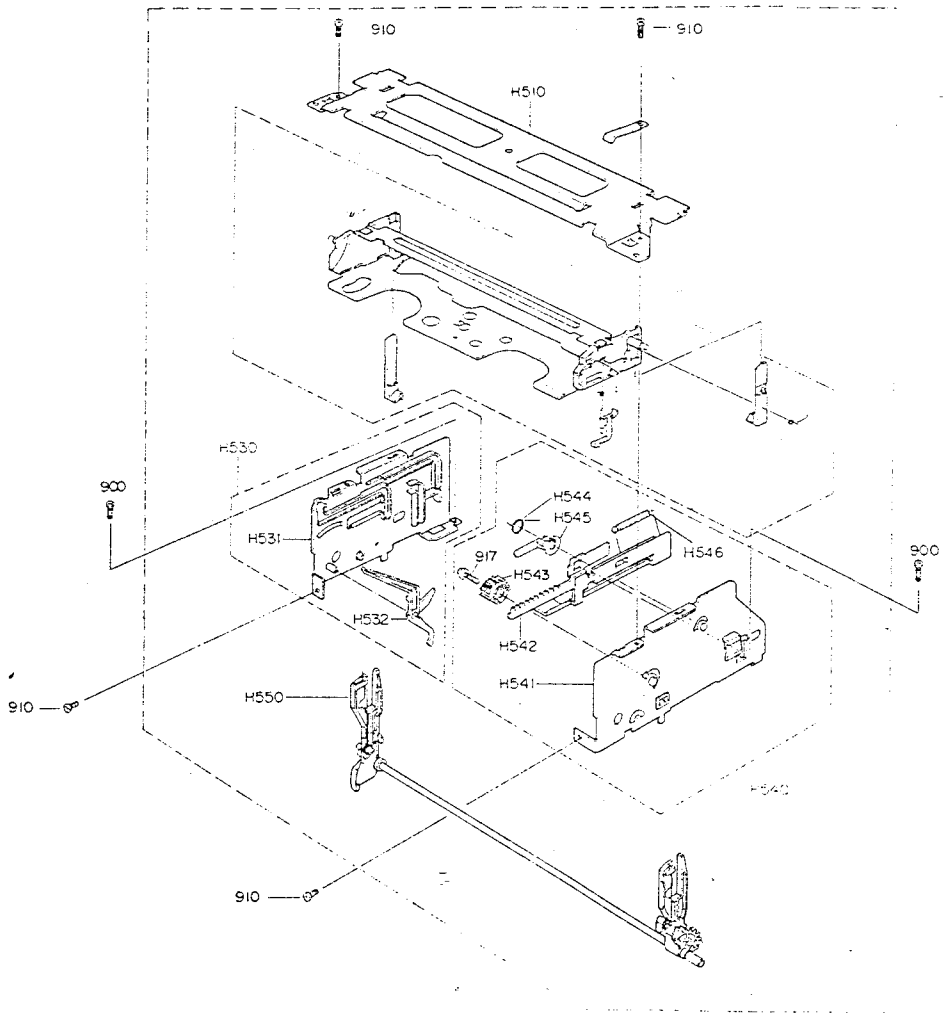
LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
901	60509-0064-00	SCREW-MACHINE;BH FP M3 L8 FE FZY
902	60509-0063-00	SCREW-TAPPING;BH B M3 L8 FE FZY
903	60504-0032-00	SCREW-PH;PH + 3 2.6 L10 SUM ZN YEL
904	60509-0059-00	SCREW-MACHINE;BH FP M2.6 L6 FE FZY
909	67008-126-081	SCREW-PH;+M2.6X8 FE FZY
912	67094-604-710	SCREW-DAMPER;M2.0X7.0 SWCM 10(MFZN2-C)
913	67008-123-101	SCREW-PH;+M2.3X10 FE FZY
916	67004-126-086	SCREW-BH;+M2.6X8 WSZN/70391398
951	67334-600-310	WASHER SLIT;PI2.5XPI5XT0.5
952	67304-103-410	WASHER-PLAIN;3.2X6X0.5 POLYSLIDER
954	60534-0024-00	WASHER-SLIT;ID3 OD8 T0.5 POLYSLIDE
955	60534-0019-00	WASHER-SLIT;A ID5 OD9 T0.5 POLYSLIDE
T201	61574-0010-01	REEL DISK(L) ASSY;X3RL03032A
T202	61574-0012-01	REEL DISK(R) ASSY;X3RL 03031A
T203	66603-620-110	BRAKE SUB L;POM(M90-44) NAT
T204	62614-0004-01	BRAKE SUB(R) ASSY;X3RL02021A
T205	66674-652-610	S/P BRAKE SUB "R";SUS304 WPB
T206	62614-0003-01	BRAKE MAIN(L) ASSY;X3RL02022A
T207	62614-0002-01	BRAKE MAIN(R) ASSY;X3RL02021A
T208	66674-652-510	S/P BRAKE MAIN;SUS304 WPB
T209	61474-0061-01	GEAR RELAY S1;PEBAX #6333
T210	61474-0062-01	GEAR RELAY S2;POM(M90-44) NAT
T211	61474-0060-01	GEAR RELAY T;PEBAX #6333
T212	61474-0063-01	GEAR RELAY S3;PEBAX #6333
T214	62024-0005-01	BAND TENSION ASSY;X3RL04051A
T215	69000-290-579	ARM-TENSION ASSY;SECC+SUS
T216	66674-652-910	SPRING TENSION;SUS304
T217	61533-0064-00	LEVER REC S/W;POM M90-44 H12.1 NAT
T218	62724-0075-00	S/P RECORD S/W;SUS304
T219	64079-700-454	HEAD MAGNETIC F/E;VTR-1X2ERS11-089(X-1)
T220	69000-291-035	ASSY-P.B & G.R(L);X-3
T221	69000-291-036	ASSY-P.B & G.R(R);X-3
T222	69000-291-004	FULL REVIEW ARM ASSY;X-3
T223	61544-0032-00	REVIEW ARM ASSY;SECC+SUS303C+C3604BD
T224	61473-0059-01	GEAR REVIEW;POM(M90-44) NAT
T226	69000-291-032	A/C HEAD ASSY;X-3(WINNER)
T228	61472-0054-01	GEAR ESCALATOR;POM(M90-44)
T229	61523-0021-01	PINCH ROLLER UNIT;X-3A
T230	61543-0040-01	ARM PINCH ASSY;SECC 1.6+SUS+C3604BD
T231	62724-0062-01	S/P PINCH ROLLER;SUS304-WPB

LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
T232	63323-0043-01	HOLDER ESCALATOR;PC 30%
T233	61604-0003-01	IDLER SUB ASSY;X3RL 06061A
T234	67179-0069-01	UNIT-DRIVE PINCH;X-3
T239	66654-617-810	CAM TENSION;POM(M90-44) WHT
T240	62724-0117-00	SPRING-REVIEW;CS STS304/WPB PI0.45 D5 L5.5
T273	B6010-0248	CONNECTOR-WAFER;TMC-E02P-D1 BLK
T274	66029-0296-00	P.C.B F/E HEAD;1V0 T1.6 W29 L180 VT-350R
T280	69000-290-560	ASSY FULL ARM TENSION;SECC+SUS+POM+FELT
T281	63073-0015-00	SUPPORTER-LID OPENNER;POM(M90-44) T2 X-3
T282	63012-0098-00	BRKT PINCH DRIVE;SECC T1.0
T283	61473-0058-01	GEAR CAM PINCH;POM(OL-10)
T284	61473-0056-01	GEAR RELAY PINCH;PBT #2002
T285	61473-0057-01	GEAR CAM DRIVE;POM(OL-10)
T290	62724-0101-00	S/P BRAKE SUB
T292	62724-0082-01	S/P ESCALATOR;SUS304-WPB
T300	69020-123-012	CYLINDER ASSY;CX3-D4S (4HEAD)
	69020-123-004	CYLINDER ASSY;CX3-S2P (2HEAD)
T301	69000-390-530	UPPER-CYLINDER ASSY;DX1-D4P/S (4HEAD)
	69000-390-012	ASSY UPPER CYLINDER;XC1-S2P (2HEAD)
T303	69000-400-013	LOWER CYLINDER ASSY;CX3-D4N (4HEAD)
	69000-400-012	LOWER CYLINDER ASSY;CX3-S2N (2HEAD)
T304	62201-0051-00	BASE-CYLINDER;ADC12 WHT X-3W
T305	66823-0020-00	MOTOR CYLINDER;DMVDMT 04B
T309	66124-601-710	RETAINER-RUBBER ASSY;SECC+SILICONE



LOCA.NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
902	60509-0063-00	SCREW-TAPPING;BH B M3 L8 FE FZY
905	60504-0044-00	SCREW-TAPPING;BH + 3 M2.6 L7.5 SWRCH18A ZPC3 YEL
906	60509-0058-00	SCREW-MACHINE;BH FP M3 L4 SWRCH10A
951	67334-600-310	WASHER SLIT;PI2.5XPI5XT0.5
952	67304-103-410	WASHER-PLAIN;3.2X6X0.5 POLYSLIDER
953	67334-601-830	SLIT WASHER;2.5X9X0.5(RED)
B251	66602-603-510	SLIDE MAIN;PBT 6300T(NAT)
B252	61473-0047-01	GEAR LOADING "L" ASS'Y;X-3
B253	61473-0045-01	GEAR LODAING "R" ASS'Y;X-3
B254	66674-652-810	S/P BRAKE CAPSTAN;SUS304 WPB
B255	61472-0055-02	GEAR MASTER;POM(M90-44)
B256	66829-0024-02	MOTOR-D/D CAPSTAN;F2QKB 39 12V DX3W
B257	65274-603-910	BELT CAPSTAN;CY-65
B258	61453-0001-01	CLUTCH ASSY;X3RL10101A
B259	61473-0051-01	GEAR E/J DRIVE;KOPER(KN333G30)
B260	61473-0053-02	GEAR WORM WHEEL;NYLON 12
B261	66603-619-510	LEVER SHIFT;POM(M90-44)
B262	61534-0040-01	LEVER TENSION CONTROL;POM(M90-44) NAT
B263	61643-0016-01	SLIDE I.B ASSY;X3RL02021A
B264	62724-0129-00	SPRING-RELEASE BRAKE;SUS304 WPB
B265	67179-0068-02	L/D UNIT ASSY;X-3W
B266	66824-0013-01	L/D MOTOR ASSY;RF370C+POM
B267	69000-291-056	WORM LOADING ASSY;POM+SUS
B268	62724-0061-01	S/P CLUTCH;SUS304-WPB
B269	61504-0006-01	PULLEY RELEASE;POM(M90-44)
B270	63324-0042-01	HOLDER SHAFT;POM(M90-44)
B271	69000-291-054	CON. WAFER ASSY;WAFER+FPC+LEAD WIRE
B272	63011-0097-00	BRKT LOADING;SECC E20/20(T1.2)
B275	66203-0007-02	PROGRAM S/W;SMRS30A(K-ALPS)
B277	63374-0002-00	HEAD BRUSH ASSY;SECC+CARBON
B278	62614-0005-01	BRAKE DD CAP ASSY;X3RL02021A
B295	60504-0070-00	SCREW-TAP TITE;PWH + B M3 L8 SWCH1018 YEL
T205	66674-652-610	S/P BRAKE SUB "R";SUS304 WPB

6-4. Housing Assembly



LOCA NO	PART-NUMBER	DESCRIPTION;SPECIFICATION
900	60509-0061-00	SCREW-MACHINE;BH FP M3 L6 FE FZY
910	60509-0062-00	SCREW-TAP TITE;BH + TS M3 L6 FE FZY
917	67154-101-420	SCREW-TAP PWH;2S-3X8 FE FZY
H500	62052-0004-00	F/L HOUSING ASSY;X-3 FL28300A
H510	62202-0029-00	CHASSIS-UPPER;SECC E20/20 T1.2
H520	63322-0044-00	HOLDER-CASS ASSY;X3FL11120A
H530	62203-0027-00	CHASSIS SIDE "L" ASS'Y;X3FL02020A
H531	62203-0028-00	CHASSIS SIDE "L" OUTSERT;SECC T1.2+LUCEL/KEPITAL
H532	61533-0043-00	LEVER DOOR;LUCEL-N109-LD/KEPITAL F20-03
H540	62203-0025-00	CHASSIS SIDE "R" ASS'Y;X3FL06080A
H541	62203-0026-01	CHASSIS SIDE "R";SECC T1.2 LVCEL
H542	61474-0060-00	GEAR RACK ASSY;SECC T1.6-SWPB
H543	61473-0064-01	GEAR-JOINT;LUCEL MR-320/KT-20
H544	62724-0067-00	SPRING LEVER DAMPER;SUS304 WPB
H545	61533-0042-00	LEVER DAMPER;LUCEL N109-LD/KEPITAL F20-03
H546	62724-0112-00	SPRING-GEAR RACK;ES SWPB PI0.5 D3.5
H550	61043-0025-00	SHAFT ARM ASSY;X3FL05050A

7. BLOCK DIAGRAMS

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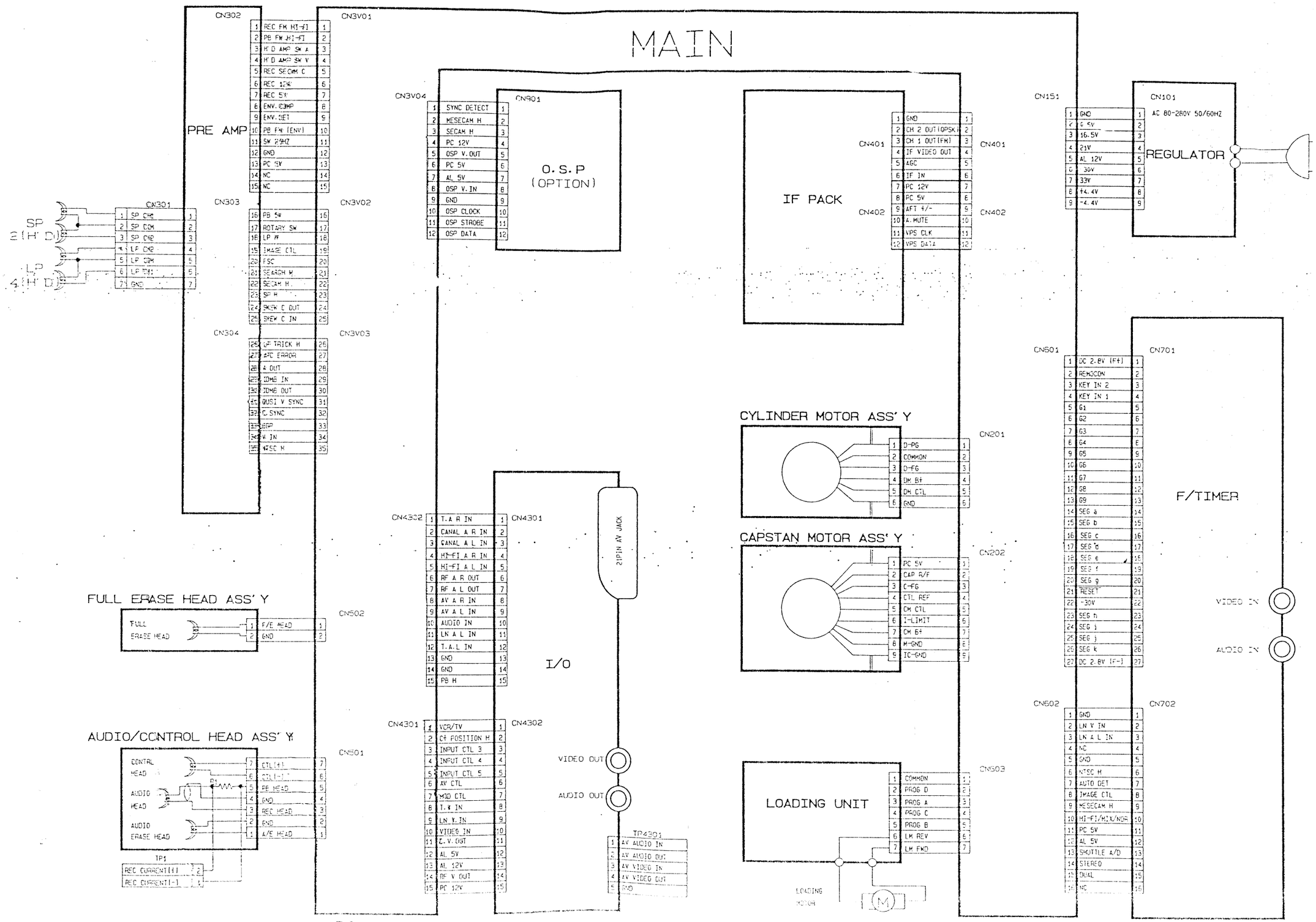
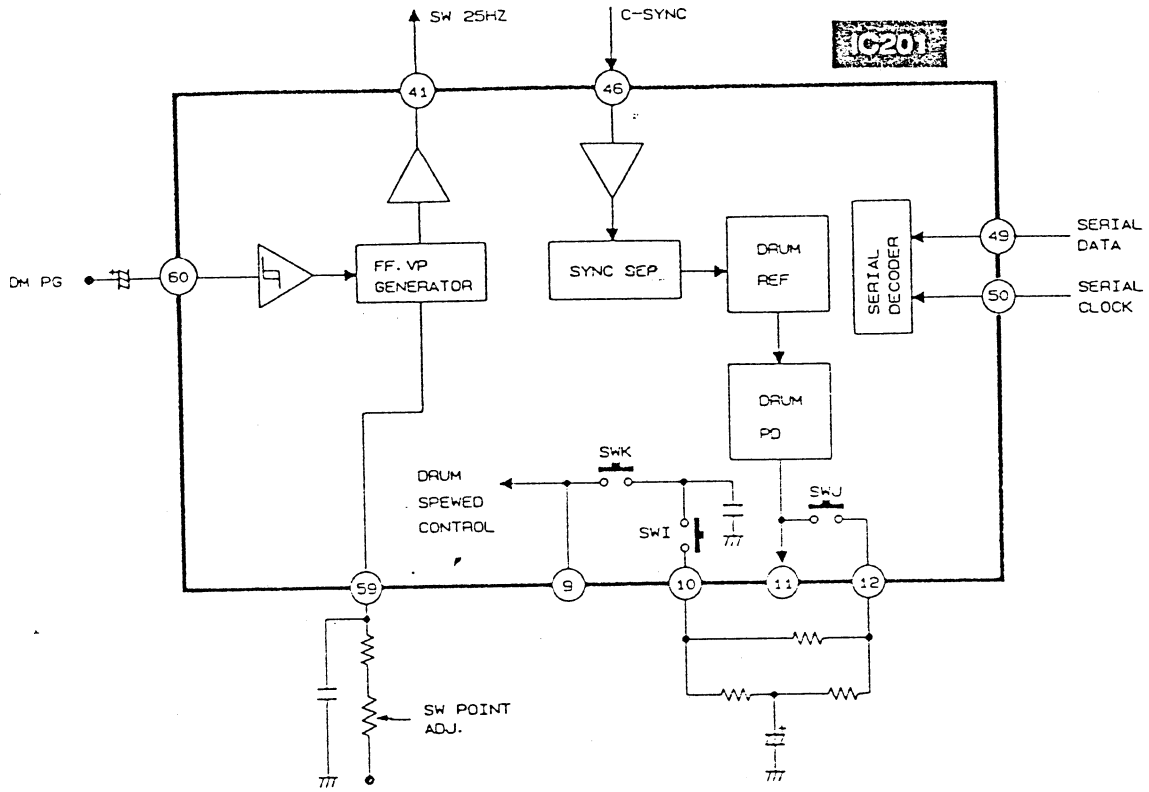
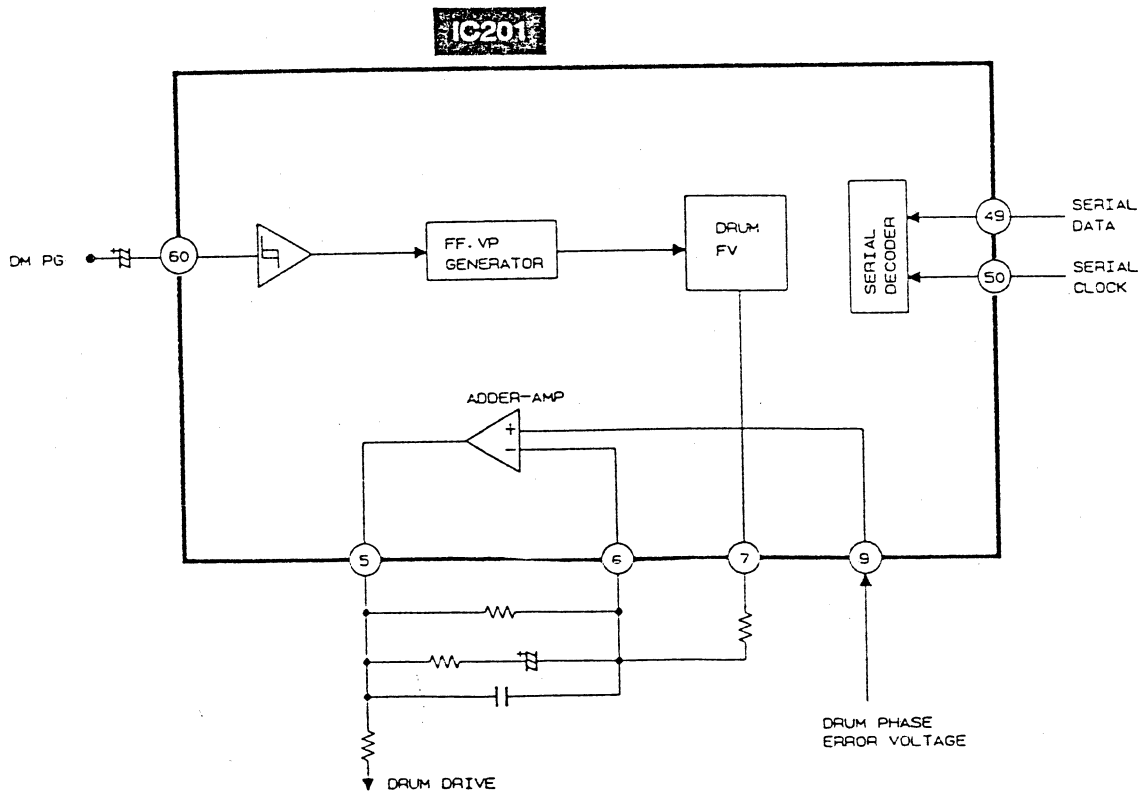
7-1. Total Wiring Diagram



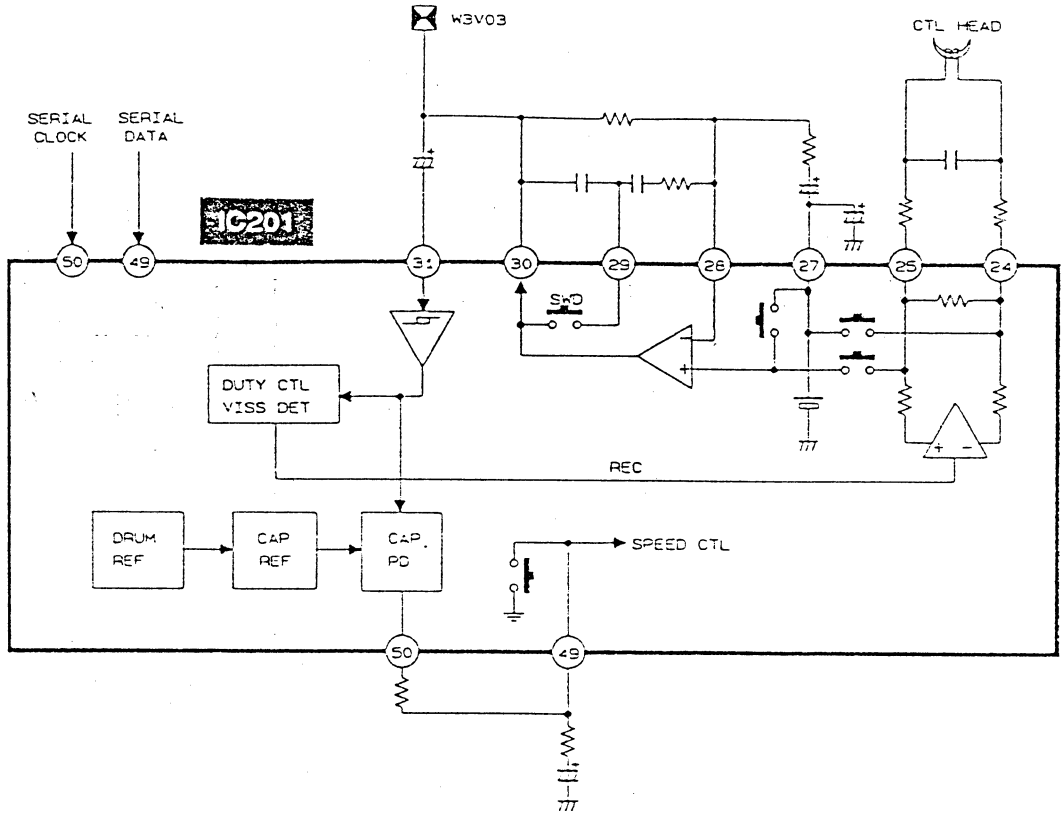
7-2. Cylinder Phase Control



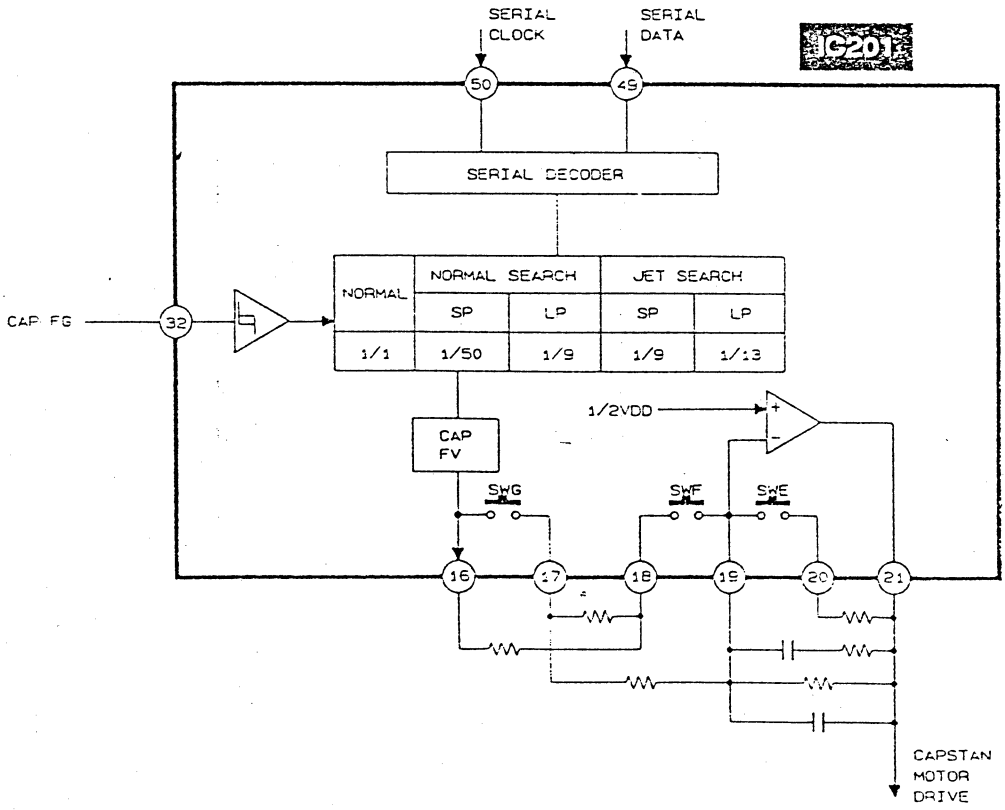
7-3. Cylinder Speed Control



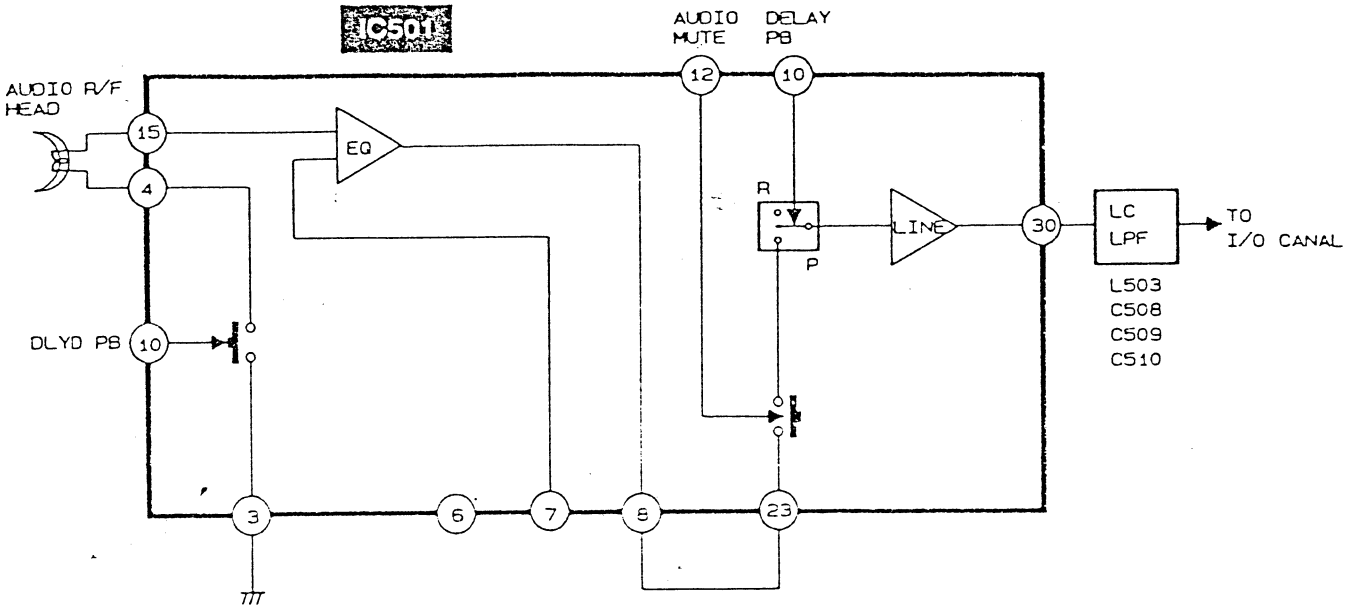
7-4. Capstan Phase Control



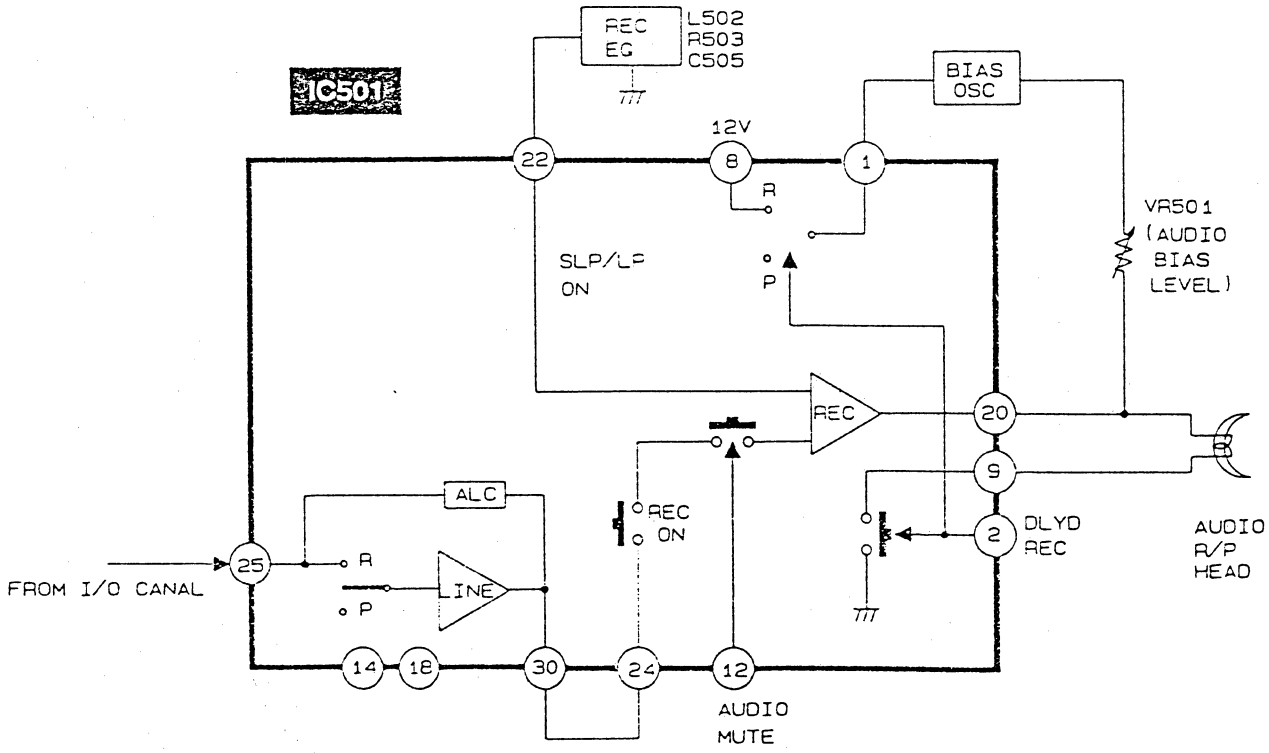
7-5. Capstan Speed Control



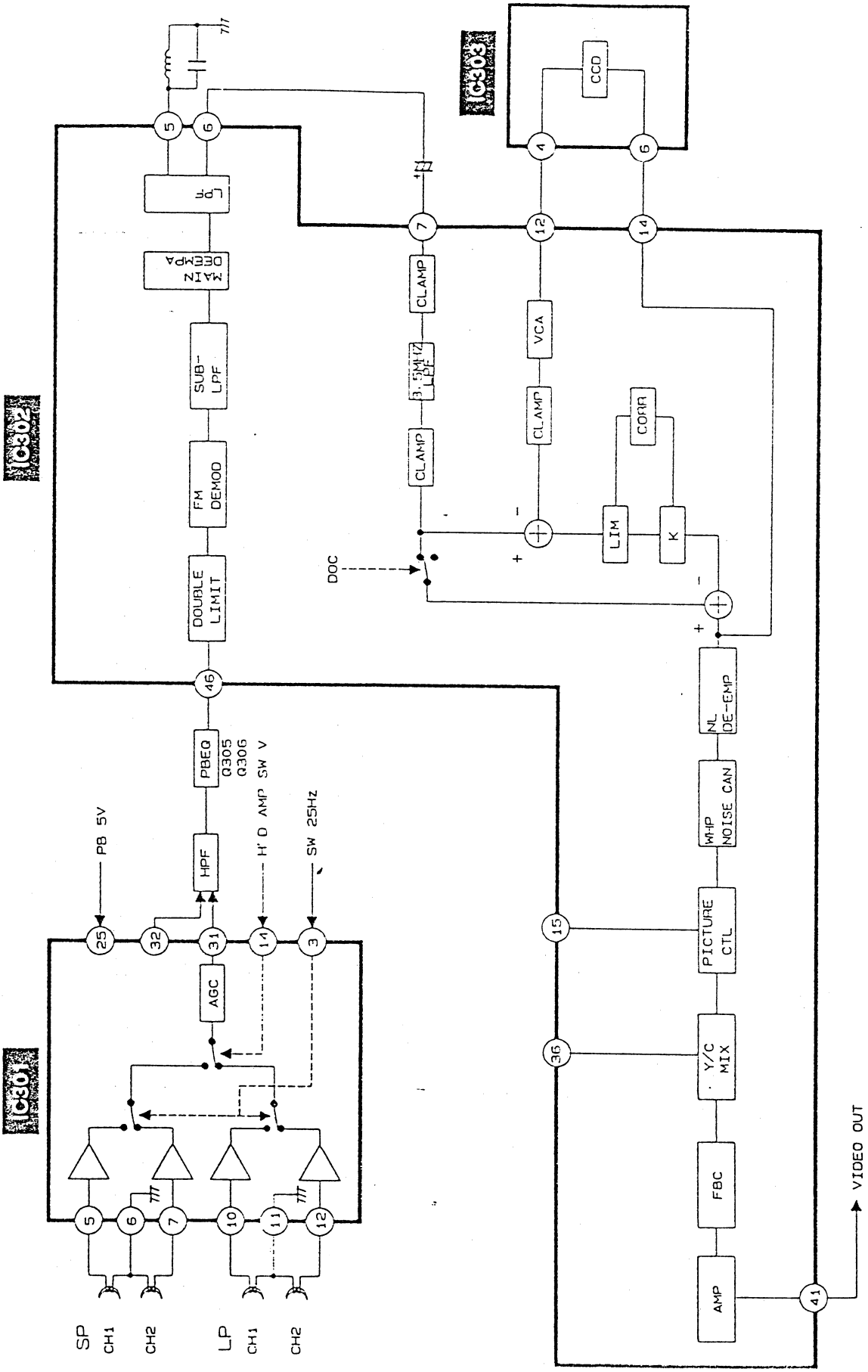
7-6. Audio Playback Process



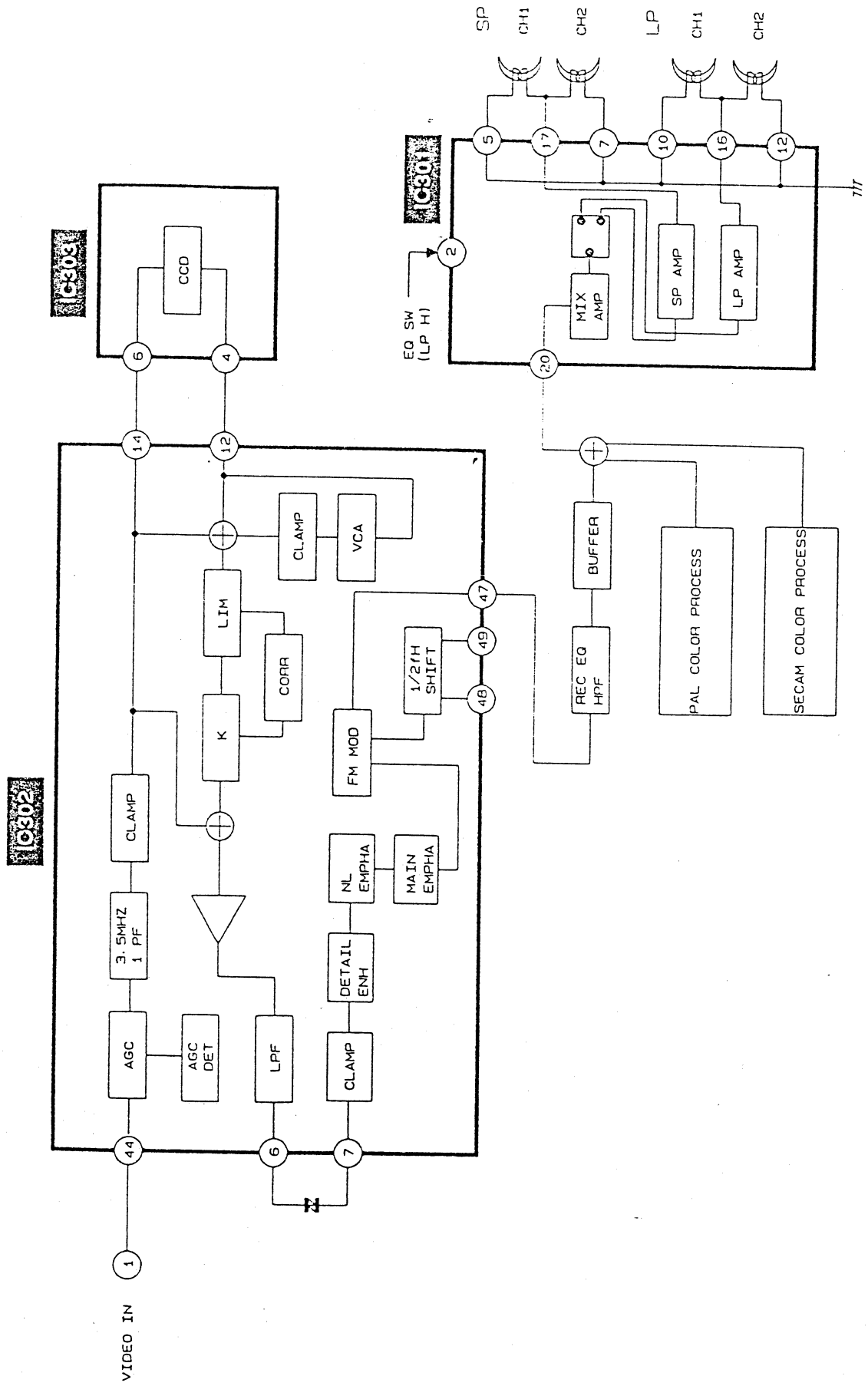
7-7. Audio Record Process



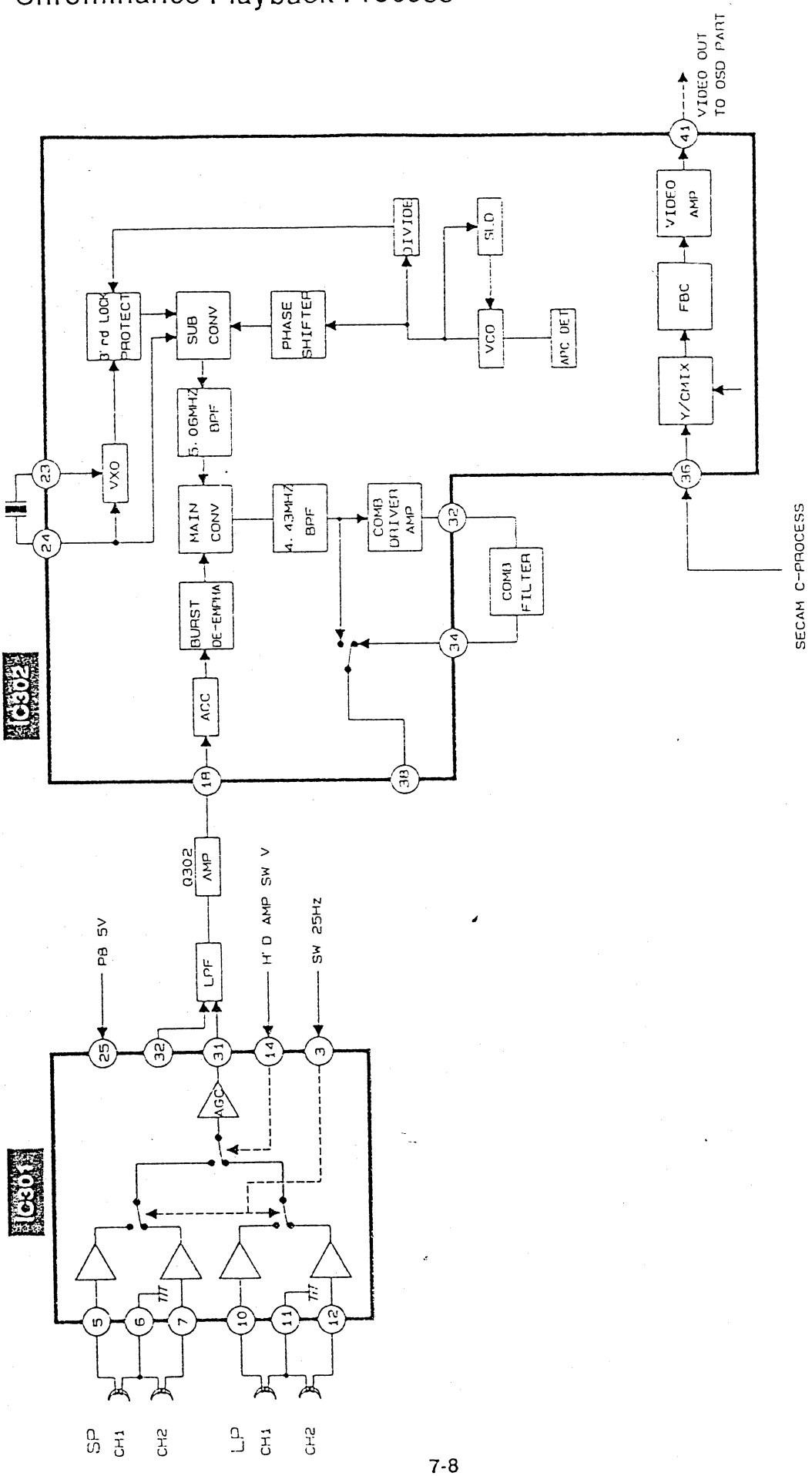
7-8. Luminance Playback Process



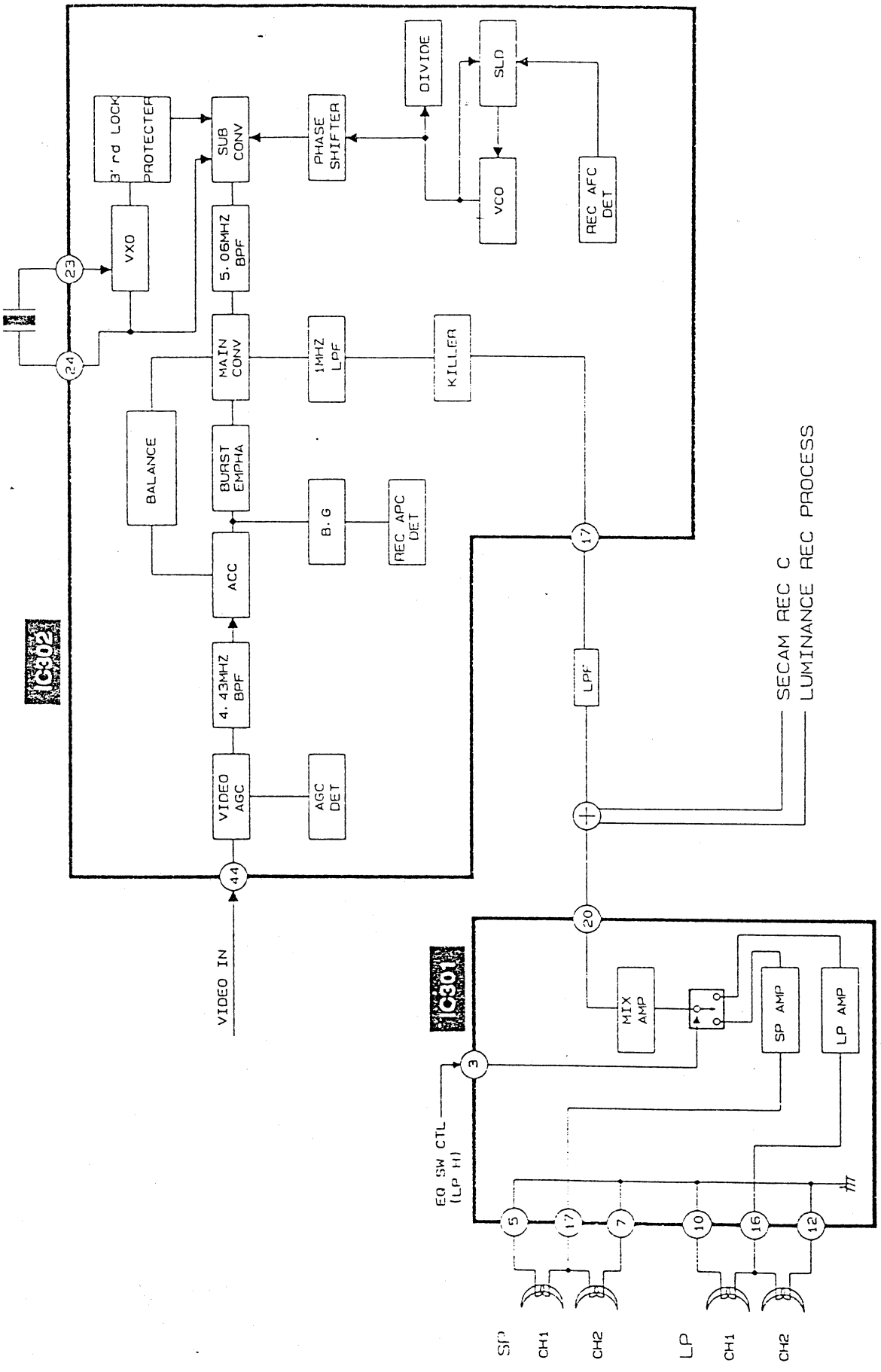
7-9. Luminance Record Process



7-10. Chrominance Playback Process



7-11. Chrominance Record Process



8. CIRCUIT BOARDS

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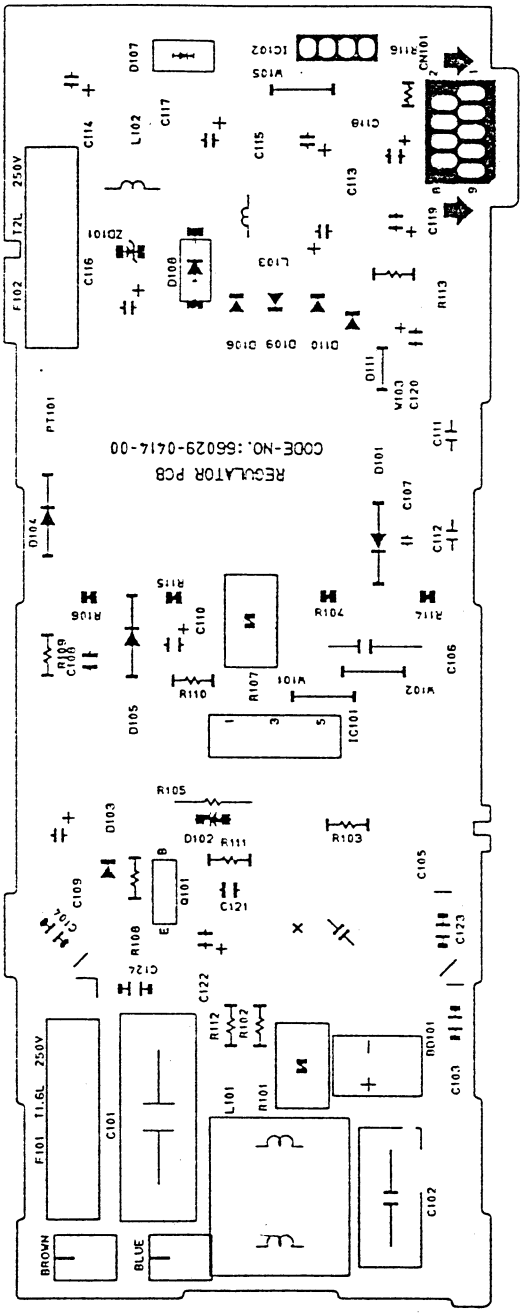
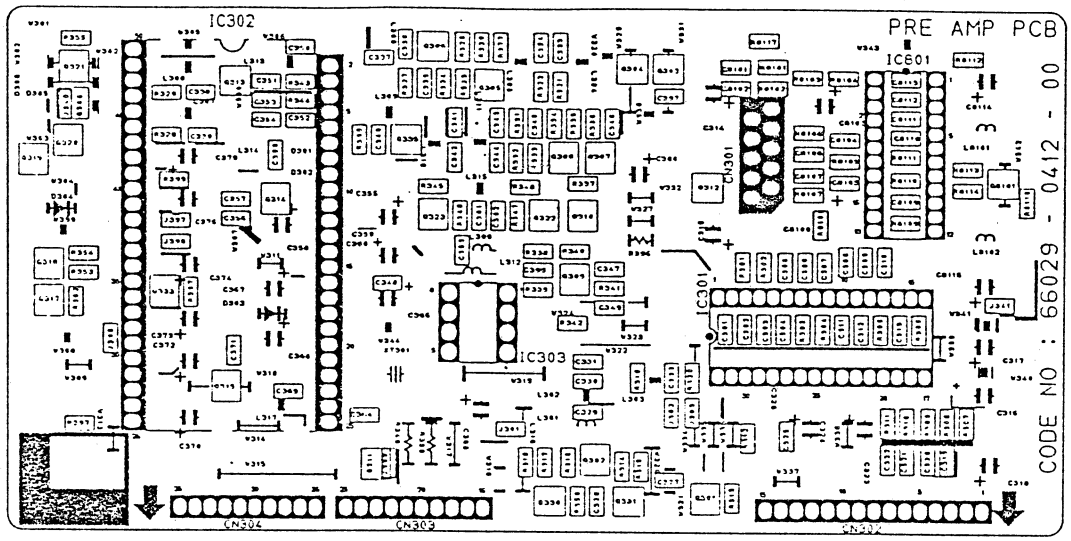
8-7.	Function/Timer (VK-350/VK-320)	8-6
8-8.	Function/Timer (VK-330/VK-300)	8-6

8-1. Regulator



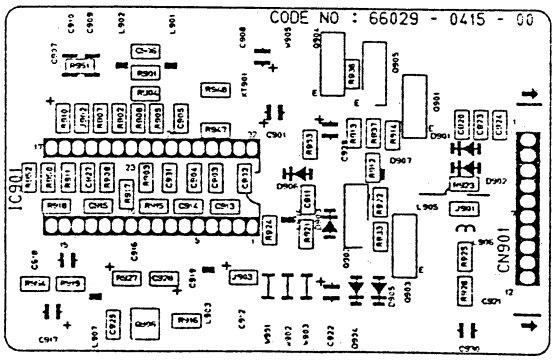
8-2. Pre-Amp

: CHIP Parts

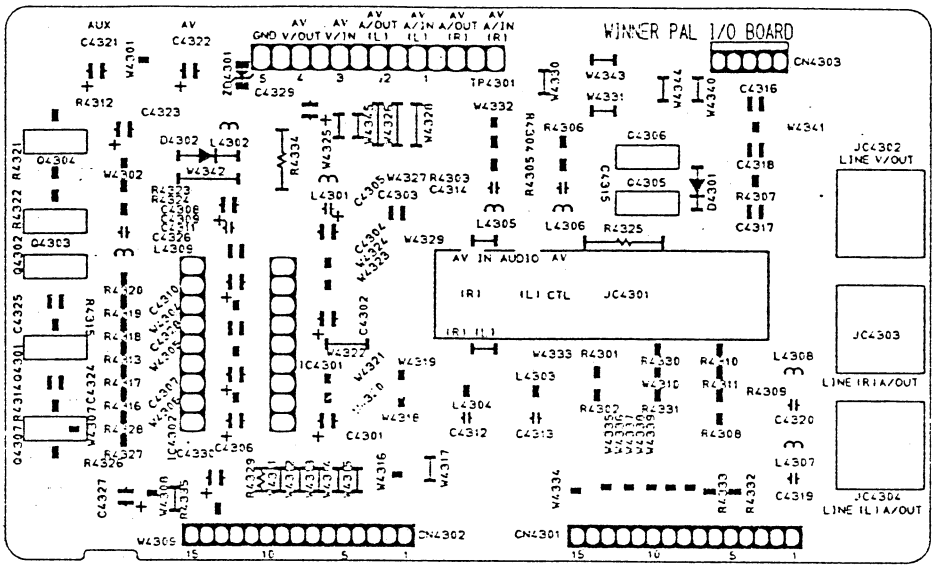


8-3. O.S.P (OPTION)

: CHIP Parts

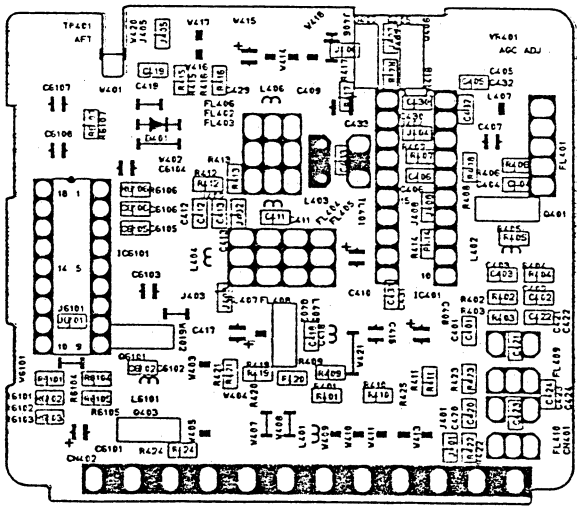


8-4. I/O



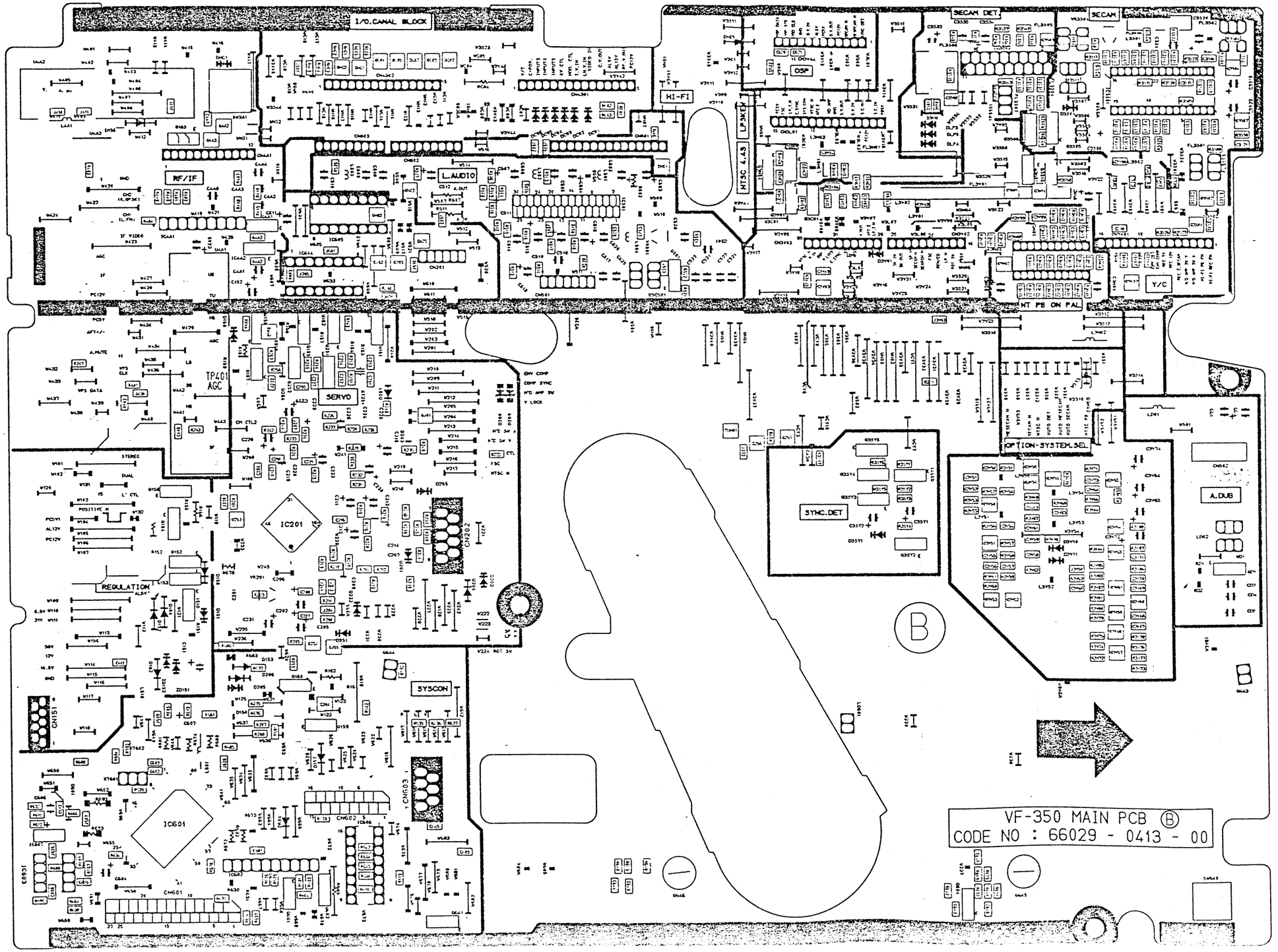
8-5. IF-PACK

: CHIP Parts

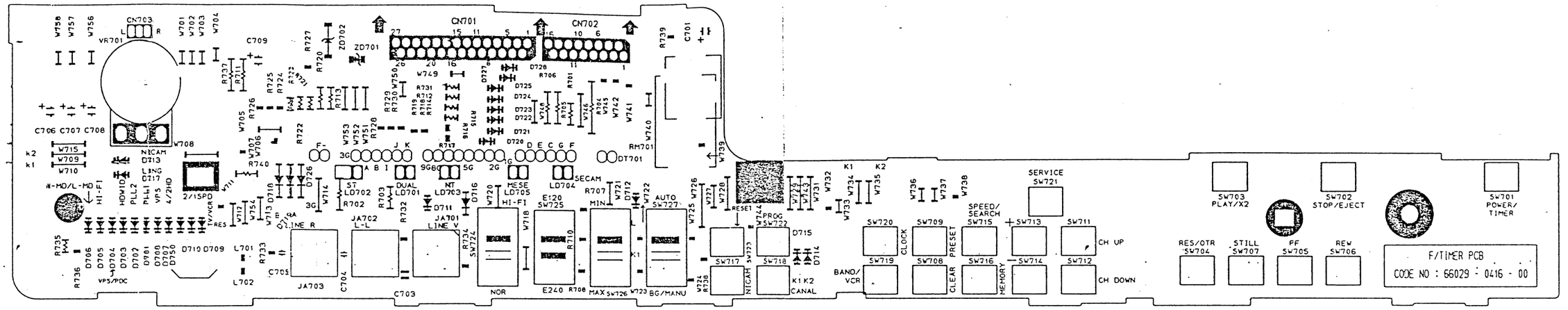


8-6. Main

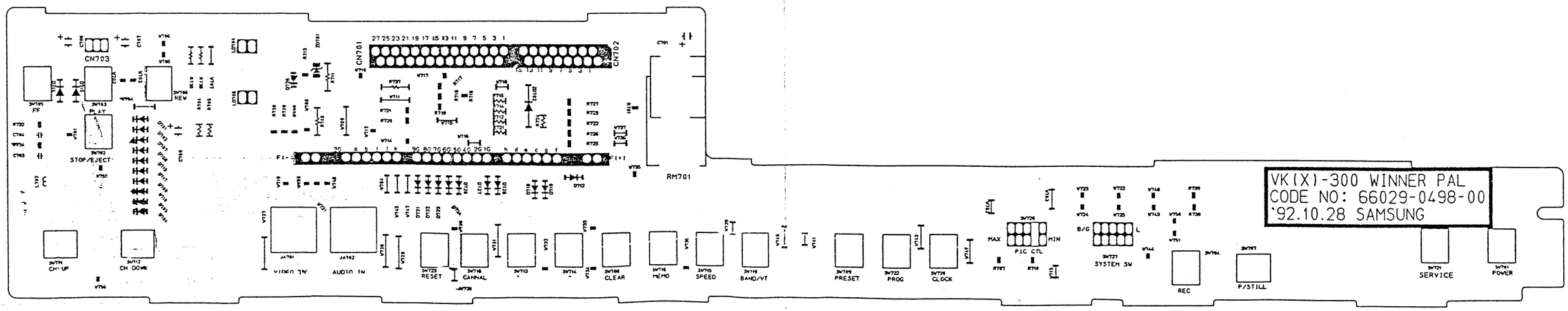
: CHIP Parts



8-7. Function/Time



8-8. Function/Timer (VK-330/VK-300)



9. SCHEMATIC DIAGRAMS

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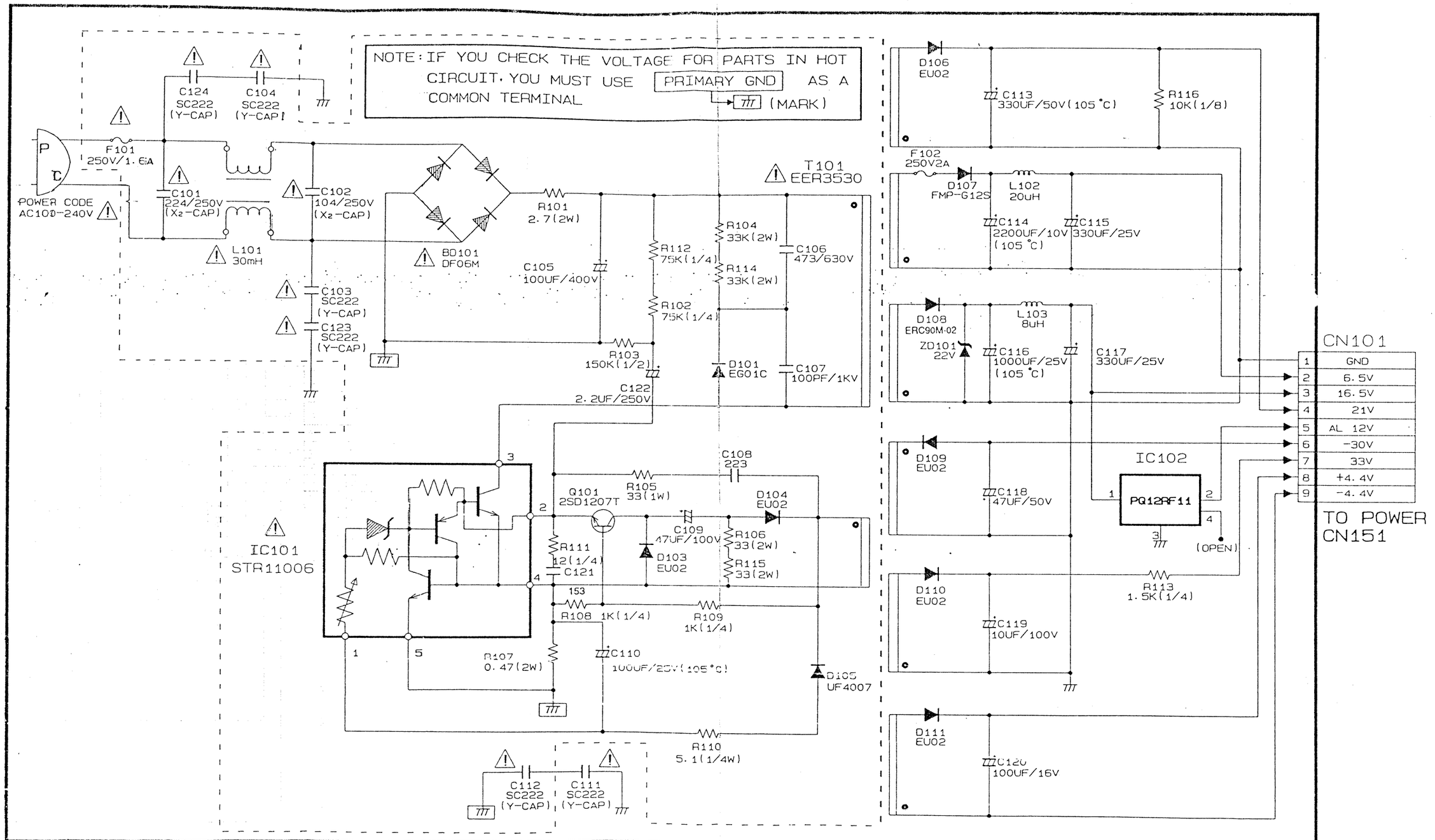
REGULATOR

9-1. Regulator



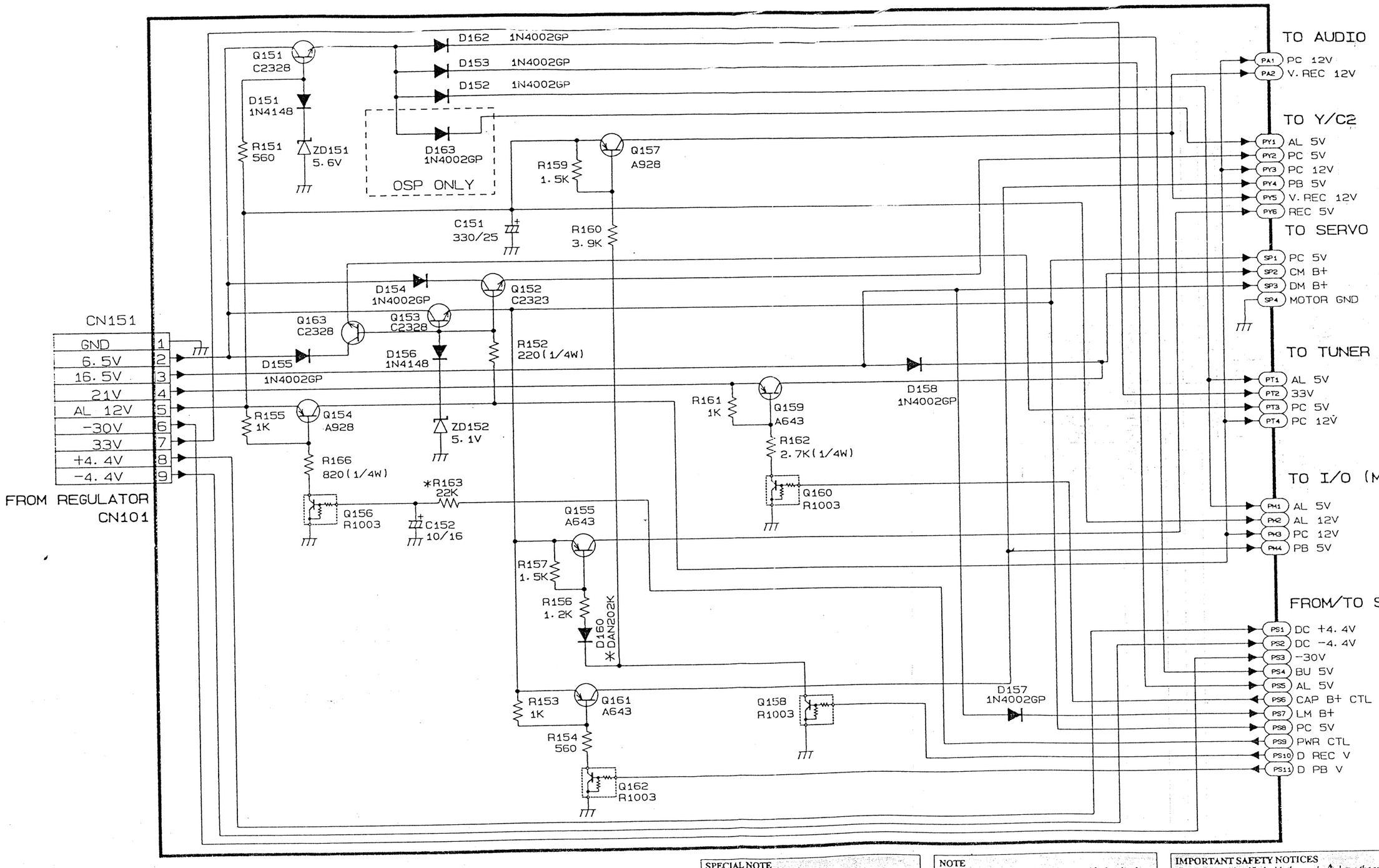
SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

IMPORTANT SAFETY NOTICES
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

POWER

9-2. Power



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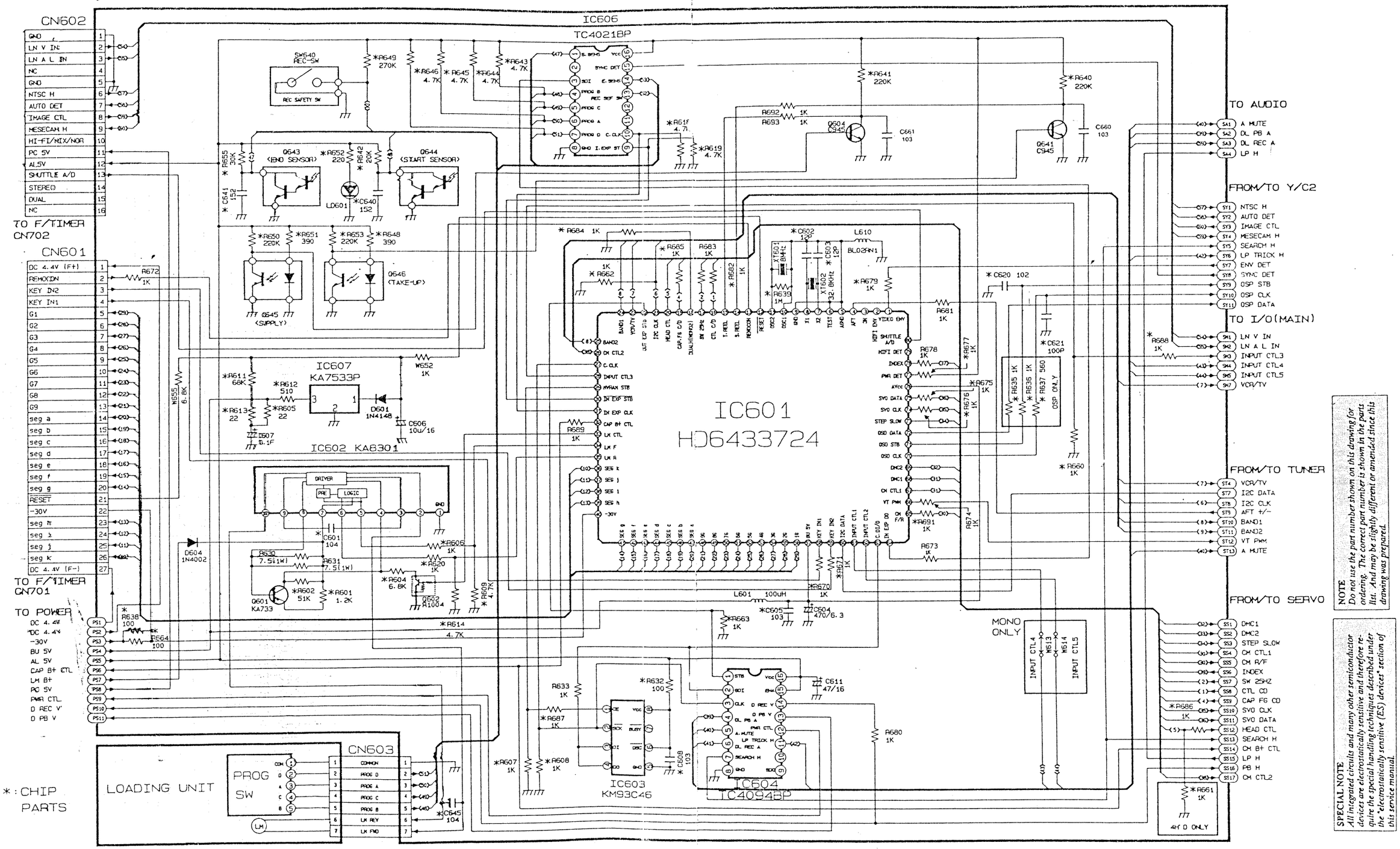
SYSTEM CONTROL

9-3. System Control



NOTE
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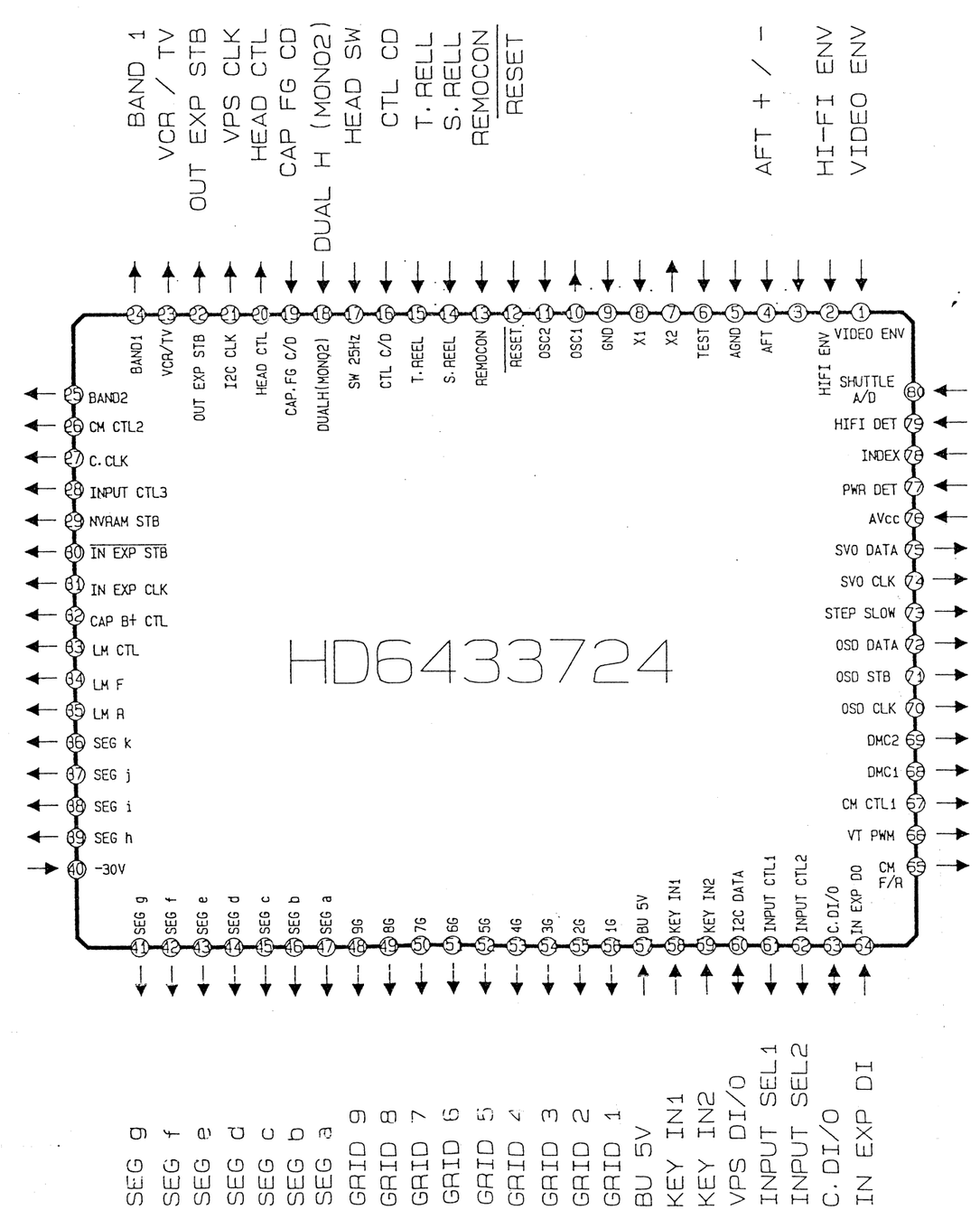
SYSTEM CONTROL

IC601							
MODE / PIN NO	STOP	REC	PLAY	MODE / PIN NO	STOP	REC	PLAY
1	0	0	1.1-3.8	41	-28	-28	-28
2	-	-	-	42	-28	-28	-28
3	0	0	0	43	-28	-28	-28
4	0-4.8	0-4.8	0-4.8	44	-28	-28	-28
5	0	0	0	45	-28	-28	-28
6	0	0	0	46	-28	-28	-28
7	0.3-2.4	0-2.3	0-2.3	47	-28	-28	-28
8	0.8	0.8	0.8	48	-28	-28	-28
9	0	0	0	49	-28	-28	-28
10	0.4-4.4	0.4-4.4	0.4-4.4	50	-28	-28	-28
11	0-5.0	0-5.0	0-5.0	51	-28	-28	-28
12	5.0	5.0	5.0	52	-28	-28	-28
13	5.0	5.0	5.0	53	-28	-28	-28
14	0/4.9	0-4.9	0-4.9	54	-28	-28	-28
15	0/4.9	0-4.9	0-4.9	55	4.6--28	4.6--28	4.6--28
16	0/5	5.0	0-5.0	56	4.7--28	4.7--28	4.7--28
17	0.5	0-5.0	0-5.0	57	5.0	5.0	5.0
18	5.0	5.0	5.0	58	0/4.3	0/4.3	0/4.3
19	0/5	0-5.0	0-5.0	59	0/4.3	0/4.3	0/4.3
20	0.5	0.5	0.5	60	5.0	5.0	5.0
21	0	0	0	61	0/5	0/5	0/5
22	0-4.8	0-4.8	0-4.8	62	0/5	0/5	0/5
23	0.6/4.9	0.6/4.9	0.6/4.9	63	0-5.0	0-5.0	0-5.0
24	0/4.9	0/4.9	0/4.9	64	0-5.0	0-5.0	0-5.0
25	0/4.9	0/4.9	0/4.9	65	4.9	4.9	4.9
26	4.9	4.9	4.9	66	0-4.9	0-4.9	0-4.9
27	0-5.0	0-5.0	0-5.0	67	0.1	4.6	4.6
28	0/4.6	0/4.6	0/4.6	68	1.2	1.4	1.4
29	0	0	0	69	1.2	1.4	1.4
30	4.9-0	4.9-0	4.9-0	70	4.9-0	4.9-0	4.9-0
31	0/5.0	0/5.0	0/5.0	71	4.9-0	4.9-0	4.9-0
32	0	0	0	72	0-5.0	0-5.0	0-5.0
33	4.8	4.8	4.8	73	0	0	0
34	4.7	4.7	4.7	74	0-5.0	0-5.0	0-5.0
35	4.7	4.7	4.7	75	0-5.0	0-5.0	0-5.0
36	4.8/-28	4.8/-28	4.8/-28	76	5.0	5.0	5.0
37	4.8/-28	4.8/-28	4.8/-28	77	5.0	5.0	5.0
38	4.8/-28	4.8/-28	4.8/-28	78	5.0	5.0	5.0
39	4.8/-28	4.8/-28	4.8/-28	79	5.0	5.0	5.0
40	-28	-28	-28	80	2.5	2.5	2.5

IC601 HD6433724

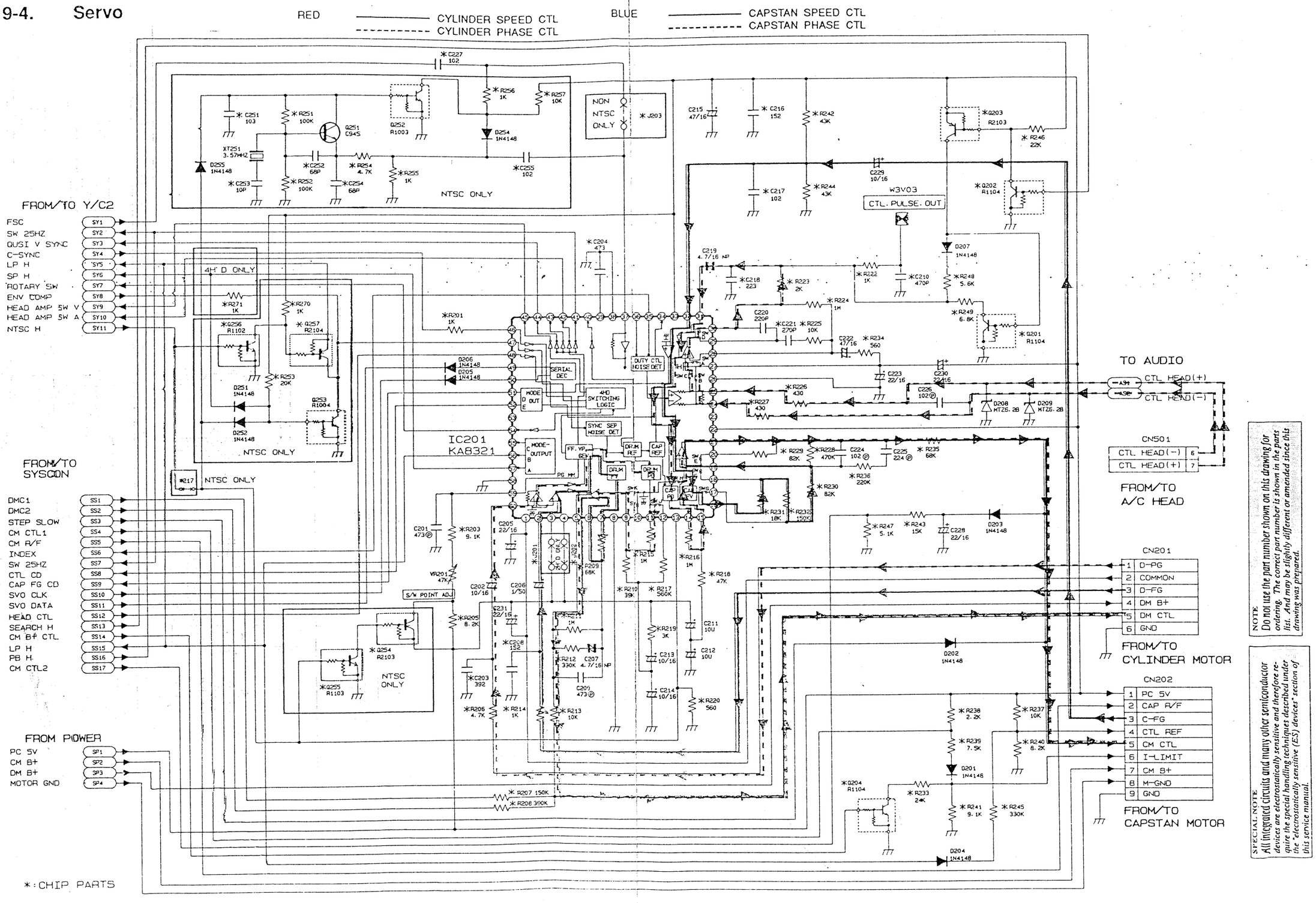


BAND 2
CM CTL2
C. CLK
INPUT SEL3
NVRAM STB
IN EXP STB
IN EXP CLK
CAP B+ CTL
LM CTL
LM FWD
LM REV
SEG k
SEG j
SEG i
SEG h
-30V

SHUTTLE A/D
HI-FI DET
INDEX
POWER DET
BU 5V
SVO DATA
SVO CLK
STEP SLOW
OSD DATA
OSD STB
OSD CLK
DMC2
DMC1
CM CTL
VT PWM
CM F/R

SERVO

9-4. Servo



NOTE
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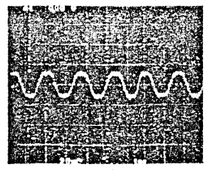
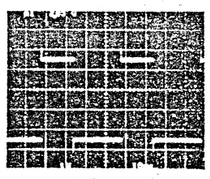
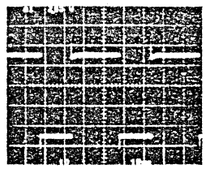
IC201							
MODE / PIN NO	STOP	REC	PLAY	MODE / PIN NO	STOP	REC	PLAY
1	2.5	2.5	2.5	31	2.5	2.5	-
2	2.5	2.5	2.5	32	2.5	-	-
3	2.6	2.6	2.6	33	5.1	5.1	5.1
4	2.6	2.6	2.6	34	0-5	0-5	0-5
5	1.4	1.5	1.5	35	5.0	5.0	5.0
6	2.5	2.5	2.5	36	5.0	5.0	5.0
7	2.5	2.5	2.5	37	-	-	-
8	0	0	0	38	0	0	0
9	2.5	2.5	2.5	39	5.0	5.0	5.0
10	0	0	0	40	0-5	0-5	0-5
11	2.5	2.5	2.5	41	0-5	0-5	0-5
12	2.3	2.3	2.3	42	0-5,	5.0	0-5
13	0.1	0.1	0.1	43	5.0	5.0	5.0
14	5.1	2.6	2.6	44	0	0	0
15	2.5	2.5	2.5	45	0	0	0
16	0	2.6	2.6	46	0.3-4.1	0.3-4.1	0.3-4.1
17	0	2.6	2.6	47	5.0	5.0	0.4-5
18	0	2.6	2.6	48	0.4	0.4	0.4
19	0.8	2.5	2.5	49	0.6-5	0.6-5	0.6-5
20	5.1	2.5	2.5	50	0.6-5	0.6-5	0.6-5
21	5.1	2.5	2.5	51	5.0	0-5	0-5
22	5.1	5.1	5.1	52	5.0	5.0	0-5
23	0	0	0	53	0	0	0
24	2.5	-	2.5	54	0-5	0-5	0-5
25	2.5	-	2.5	55	0	0	0
26	0	0	0	56	0	0	0
27	2.5	2.5	2.5	57	5.0	5.0	5.0
28	2.5	2.5	2.5	58	0	0	0
29	2.5	2.5	-	59	-	-	-
30	2.5	2.5	-	60	2.5	2.5	2.5



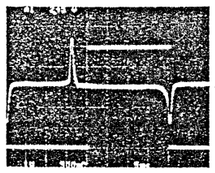
IC201-2
25mVp-p
PB



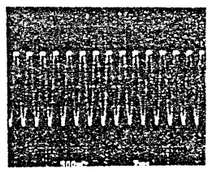
IC201-24
5.4Vp-p
REC



IC201-25
5.4Vp-p
REC



IC201-31
2Vp-p
PB



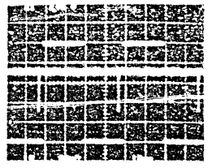
IC201-32
1.8Vp-p
PB

IC201-37
600mVp-p
PB

IC201-44
5Vp-p
STILL/SLOW

IC201-46
3.7Vp-p
PB

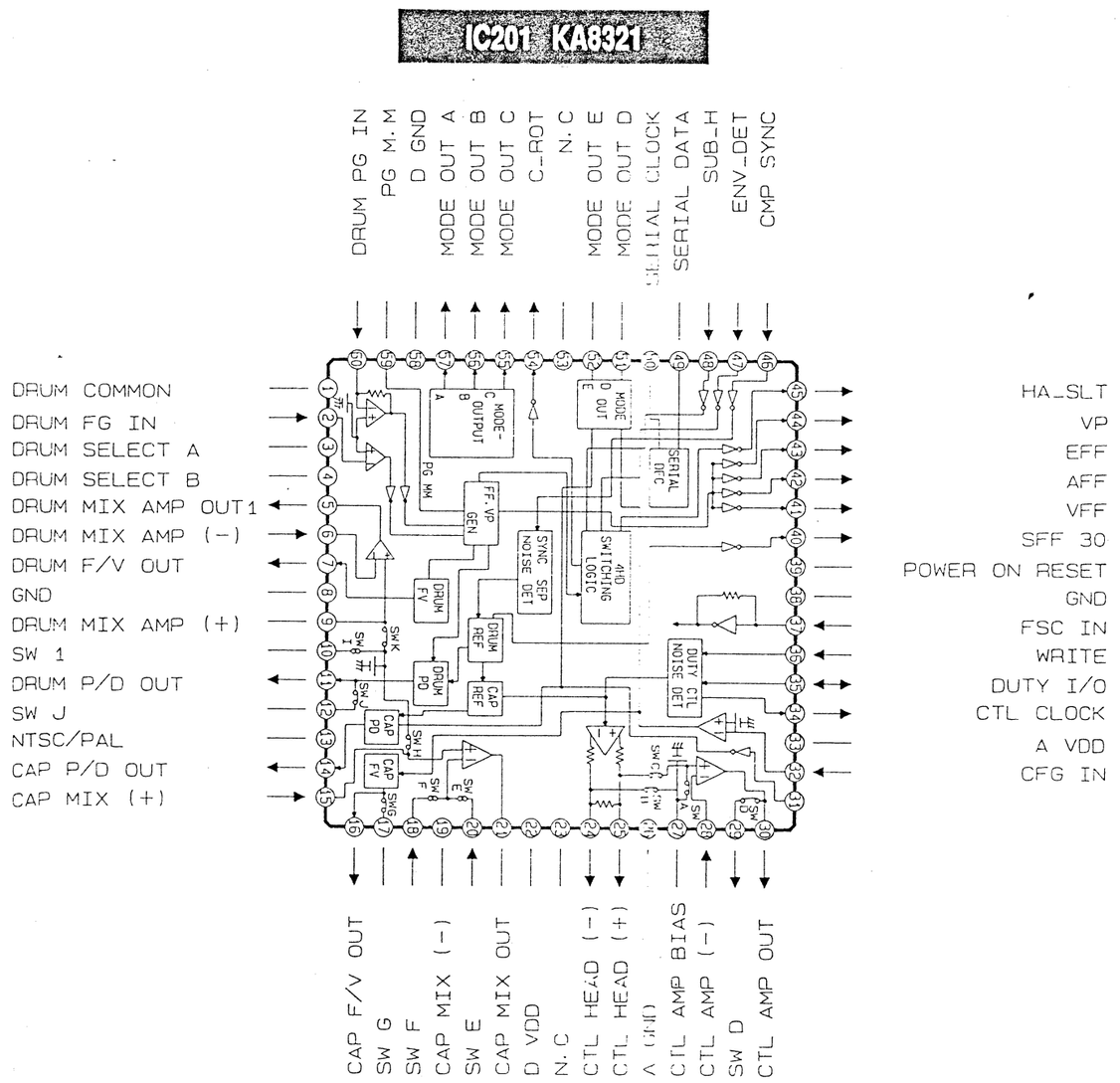
IC201-59
2.5Vp-p
PB



IC201-60
100mVp-p
PB

SERVO

IC201 KA8321

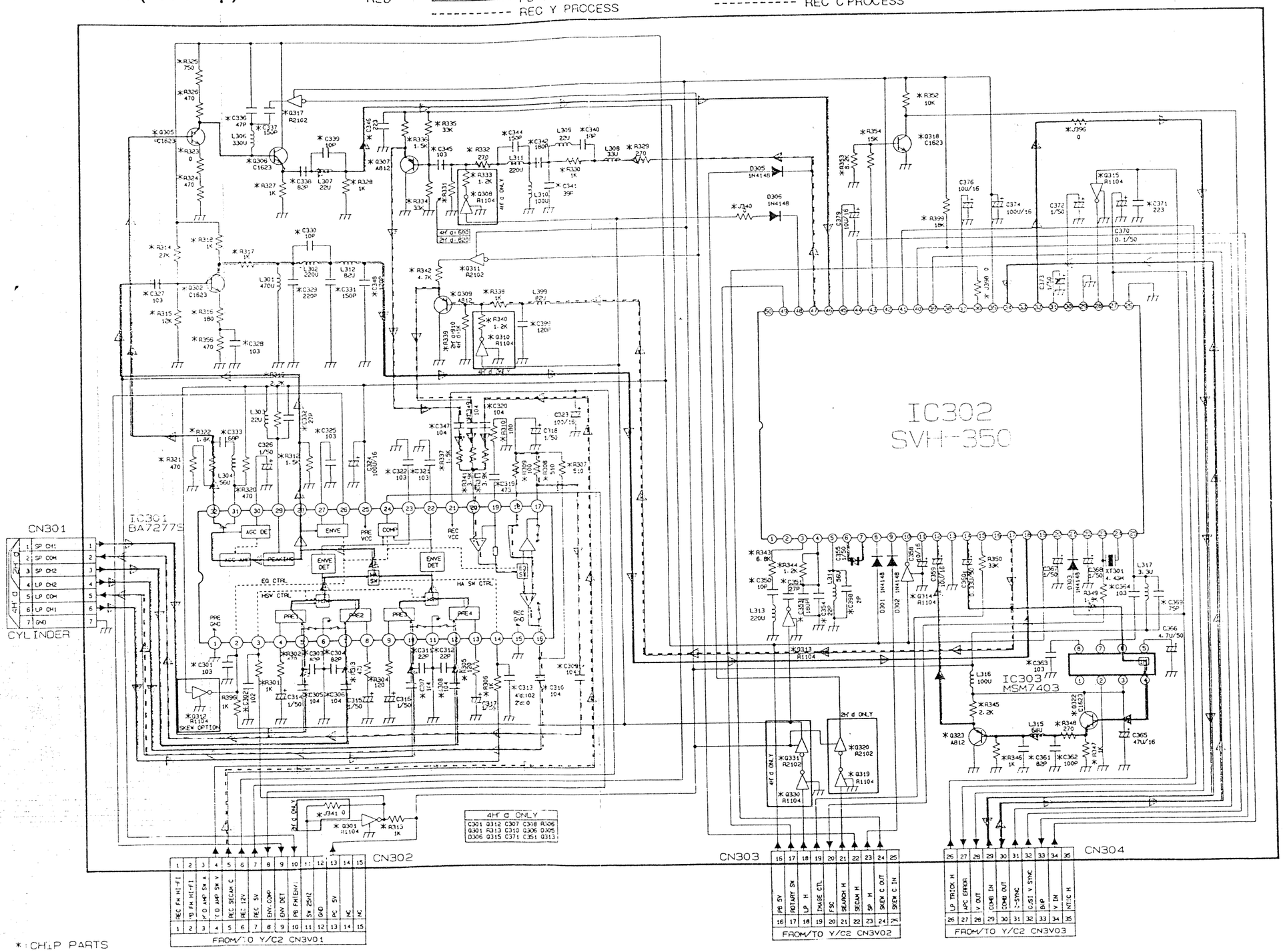


Y / C - 1

9-5. Y/C - 1 (Pre-Amp)

RED ——— PB Y PROCESS
- - - - - - - - - - REC Y PROCESS

BLUE ——— PB C PROCESS
- - - - - - - - - - REC C PROCESS



*: CHIP PARTS

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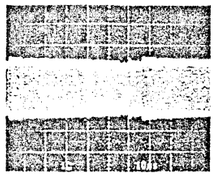
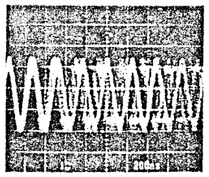
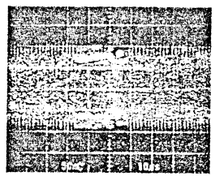


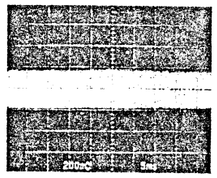
IC301-16
2.4Vp-p
REC-LP



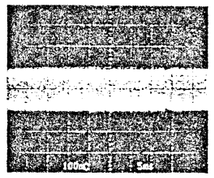
IC301-17
3.4Vp-p
REC-SP



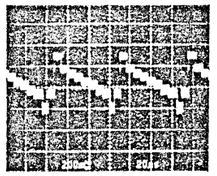
IC301-20
250mVp-p
REC



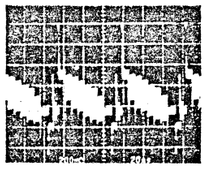
IC301-28
400mVp-p
PB-SP



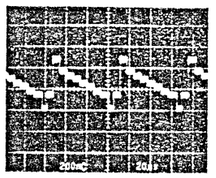
IC301-32
200mVp-p
PB-SP



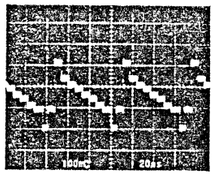
IC302-5
0.5Vp-p
PB



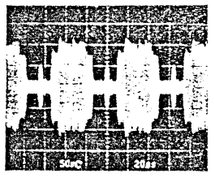
IC302-8
0.5Vp-p
REC/EE



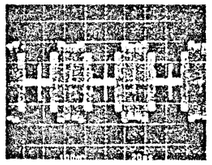
IC302-12
0.5Vp-p
PB



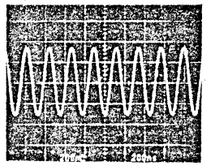
IC302-14
0.3Vp-p
PB



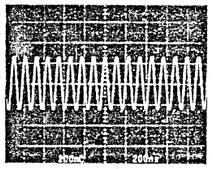
IC302-17
200mVp-p
PB



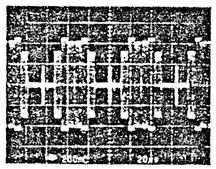
IC302-17
400mVp-p
REC/EE



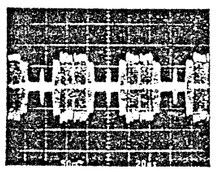
IC302-23
600mVp-p
PB/REC/EE



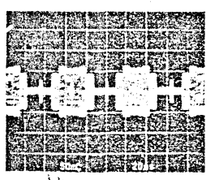
IC302-25
500mV-pp
REC/EE



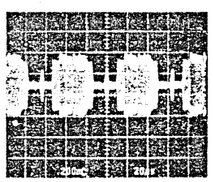
IC302-33
900mVp-p
REC/EE



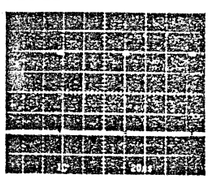
IC302-34
150mVp-p
PB



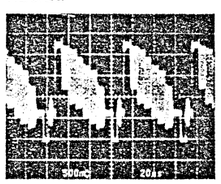
IC302-34
120mVp-p
REC/EE



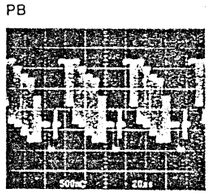
IC302-38
600mVp-p
PB



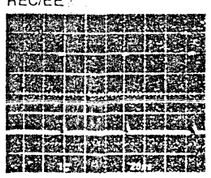
IC302-38
4Vp-p
PB/REC/EE



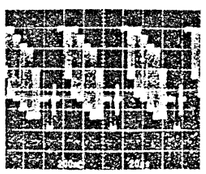
IC302-41
2.15Vp-p
PB



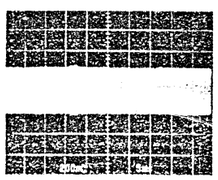
IC302-41
2.15Vp-p
REC/EE



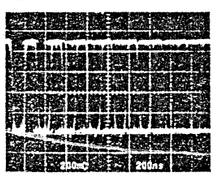
IC302-43
4Vp-p
PB/REC/EE



IC302-44
1Vp-p
REC/EE



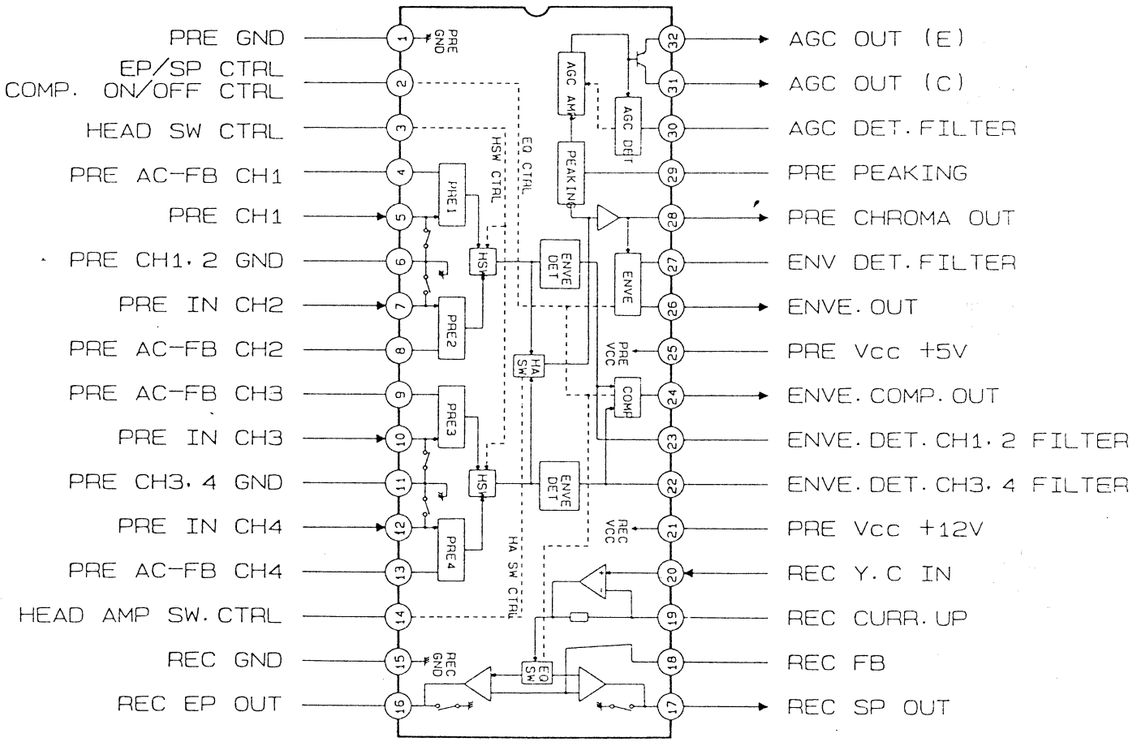
IC302-46
400mVp-p
PB



IC302-47
900mVp-p
REC/EE

Y / C - 1

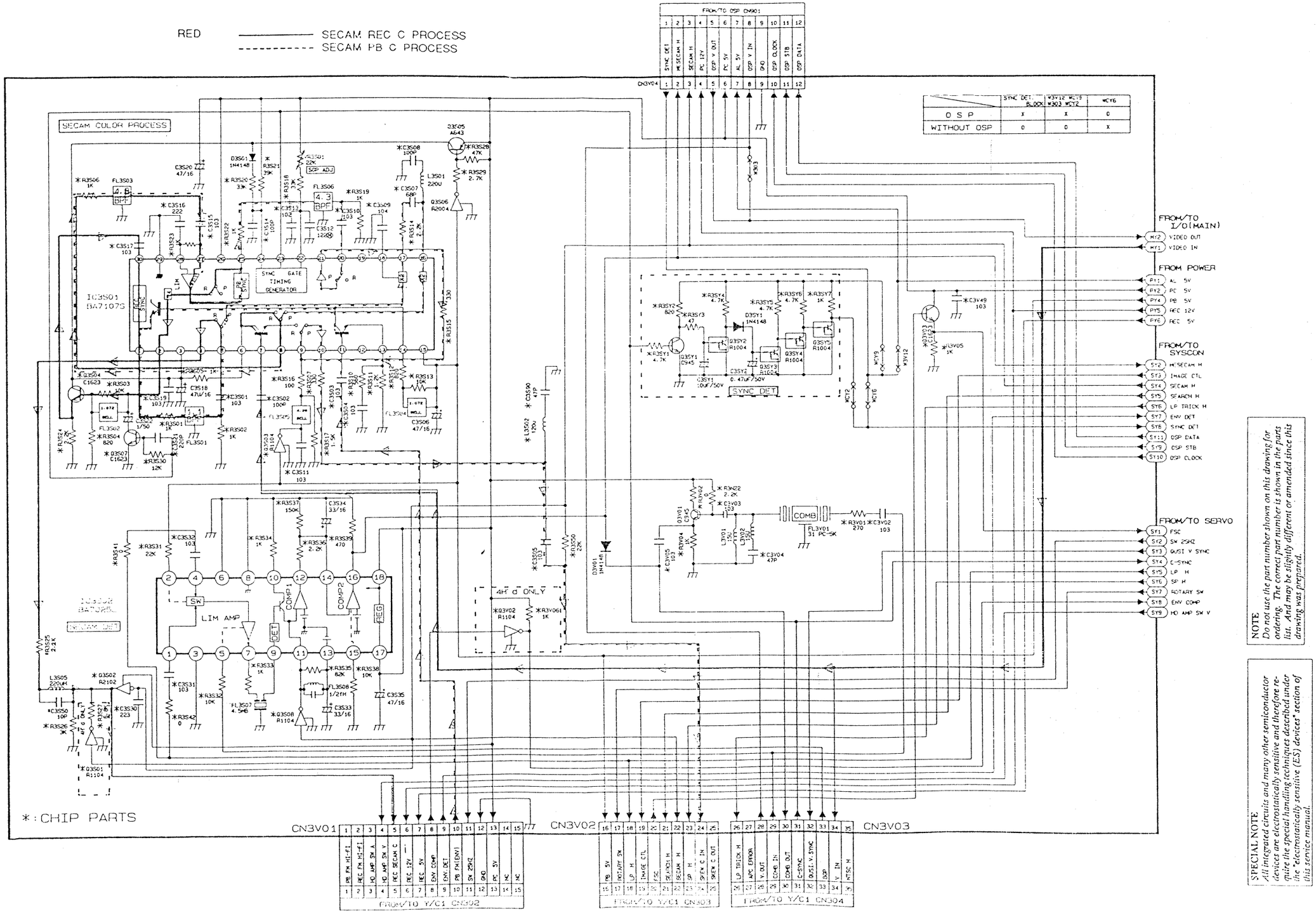
IC301 BA7277S



Y / C - 2

9-6. Y/C - 2

RED ——— SECAM REC C PROCESS
---------- SECAM PB C PROCESS



	SYNC DET. BLOCK	W3V12 W3V13 W303 W3V12	WCY6
O S P	X	X	O
WITHOUT OSP	O	O	X

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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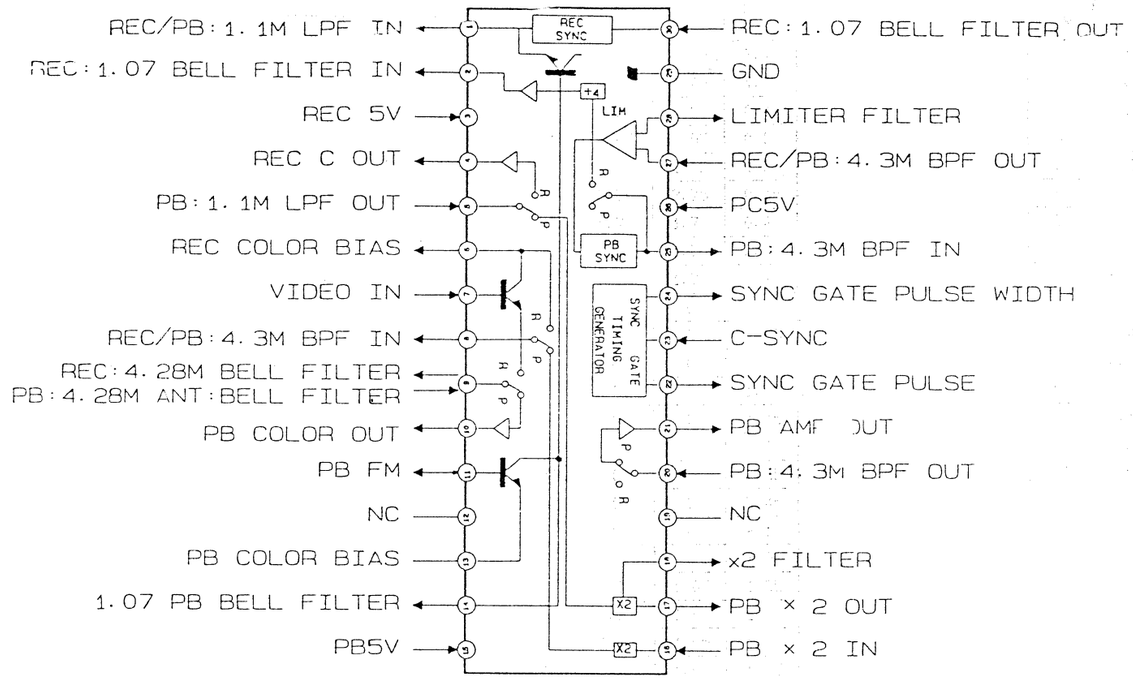
IC3S01			
MODE / PIN NO	STOP	REC	PLAY
1	2.75	2.75	3.75
2	3.25	3.25	1.3
3	5.0	5.0	0.45
4	1.95	1.95	0.8
5	1.15	1.15	1.3
6	3.75	3.75	0.45
7	1.7	1.7	0.2
8	1.7	1.7	2.4
9	1.7	1.7	1.2
10	0	0	2.15
11	0	0	2.95
12	0	0	0
13	0	0	1.5
14	0	0	4.45
15	0	0	5.0
16	0	0	2.55
17	0	0	3.45
18	0	0	2.1
19	0	0	3.0
20	1.05	1.05	1.35
21	1.8	1.8	1.35
22	1.05	1.05	1.05
23	1.05	1.05	1.05
24	1.7	1.7	1.4
25	3.35	3.35	3.4
26	5.0	5.0	5.0
27	3.1	3.1	3.15
28	3.15	3.15	3.15
29	0	0	0
30	2.5	2.5	0

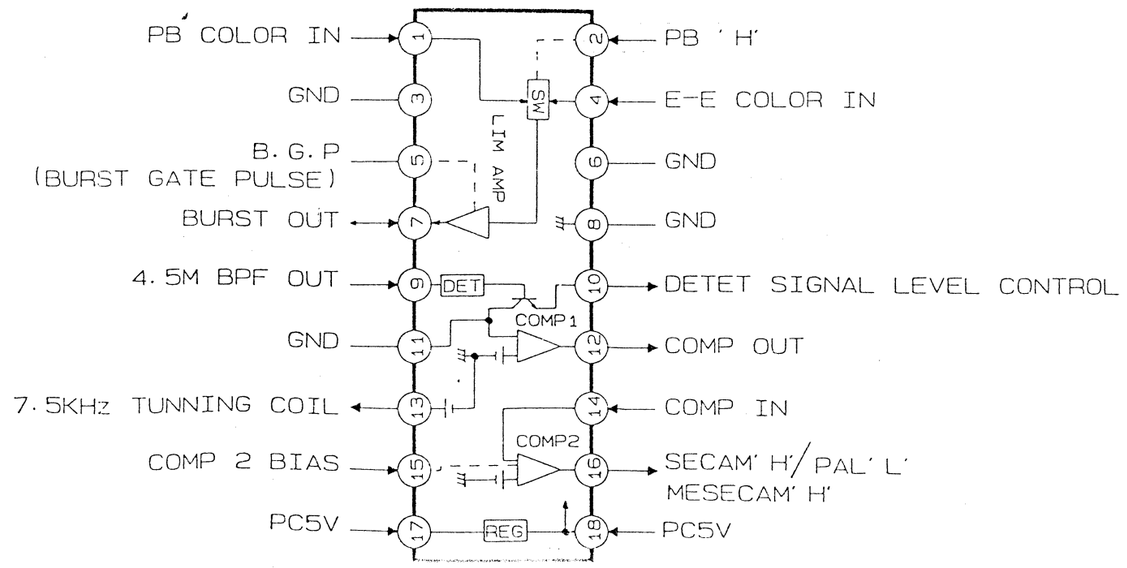
IC3S02			
MODE / PIN NO	STOP	REC	PLAY
1	3.5	3.5	3.7
2	0	0	1.05
3	0	0	0
4	3.6	3.6	3.6
5	3.6	3.6	2.55
6	0	0	0
7	3.65	3.65	3.8
8	0	0	0
9	1.35	1.35	1.35
10	0.45	0.45	0.5
11	3.4	3.4	3.4
12	4.25	4.25	4.10
13	3.55	3.55	0
14	4.15	4.15	4.2
15	5	5	5
16	5	5	5

Y / C - 2

IC3S01 BA7107S

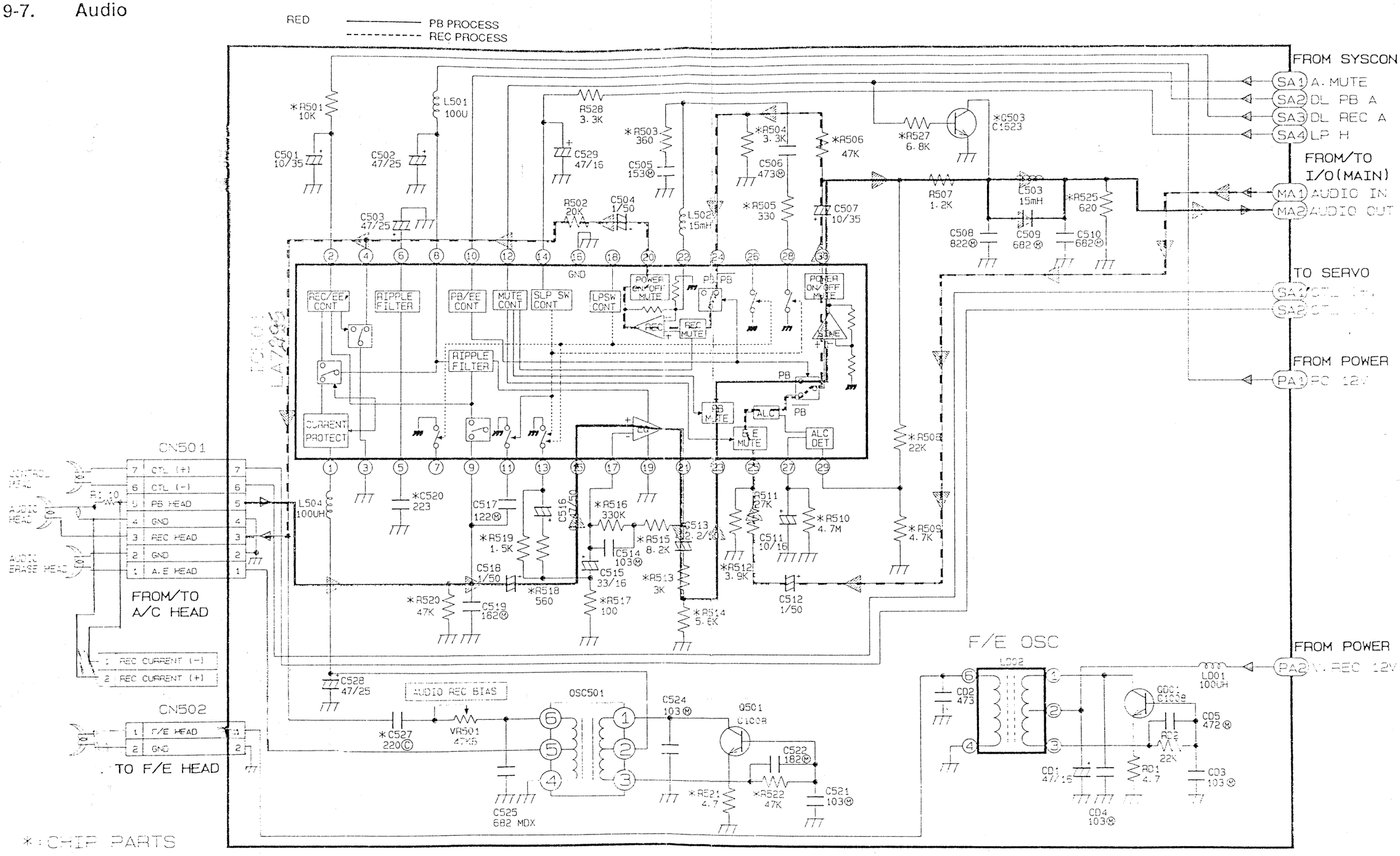


IC3S02 BA7025L



AUDIO

9-7. Audio



SPECIAL NOTE
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NOTE
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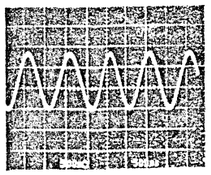
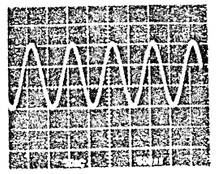
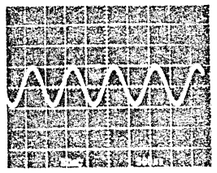
IC501			
MODE / PIN NO	STOP	REC	PLAY
PIN 1	0	0	0
PIN 2	0	0	0
PIN 3	0	0	0
PIN 4	0	0	0
PIN 5	0	0	0
PIN 6	0.6	0.6	0.6
PIN 7	0	0	0
PIN 8	3.3	3.3	3.3
PIN 9	3.7	3.7	3.7
PIN 10	0.6	0.6	0
PIN 11	3.7	3.7	3.7
PIN 12	0	0	0
PIN 13	3.7	3.7	3.7
PIN 14	0	0	0
PIN 15	0	0	0
PIN 16	1.5	1.5	1.5
PIN 17	4.2	4.2	4.2
PIN 18	9.1	9.1	9.1
PIN 19	12.0	12.0	12.0
PIN 20	0	0	0
PIN 21	0	0	0
PIN 22	0	0	0
PIN 23	4.8	4.8	0
PIN 24	0	5.1	0



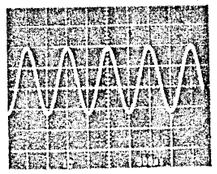
IC501-20
1.3Vp-p
REC



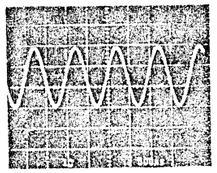
IC501-21
150mVp-p
PB



IC501-25
100mVp-p
REC/EE



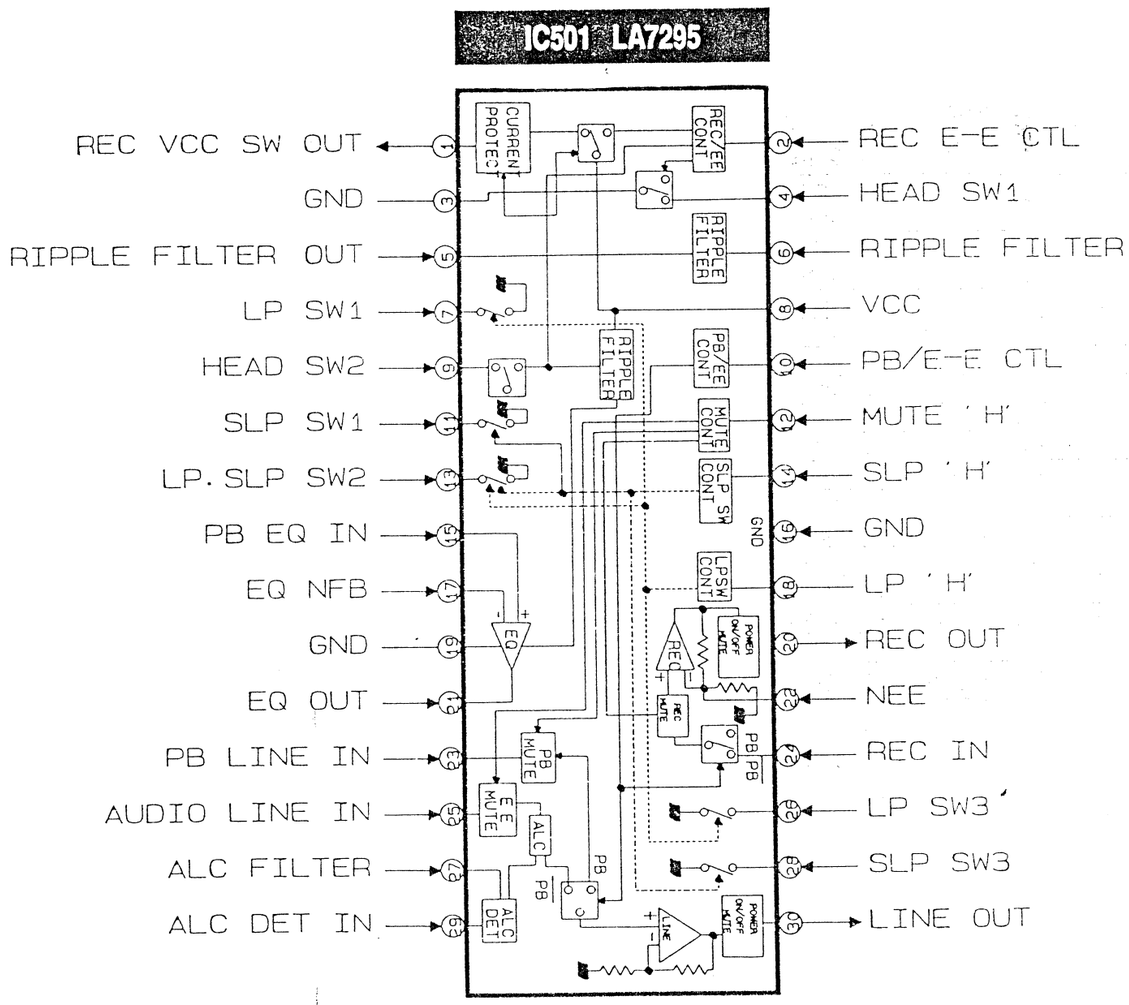
IC501-30
3Vp-p
PB



IC501-30
2.8Vp-p
REC/EE

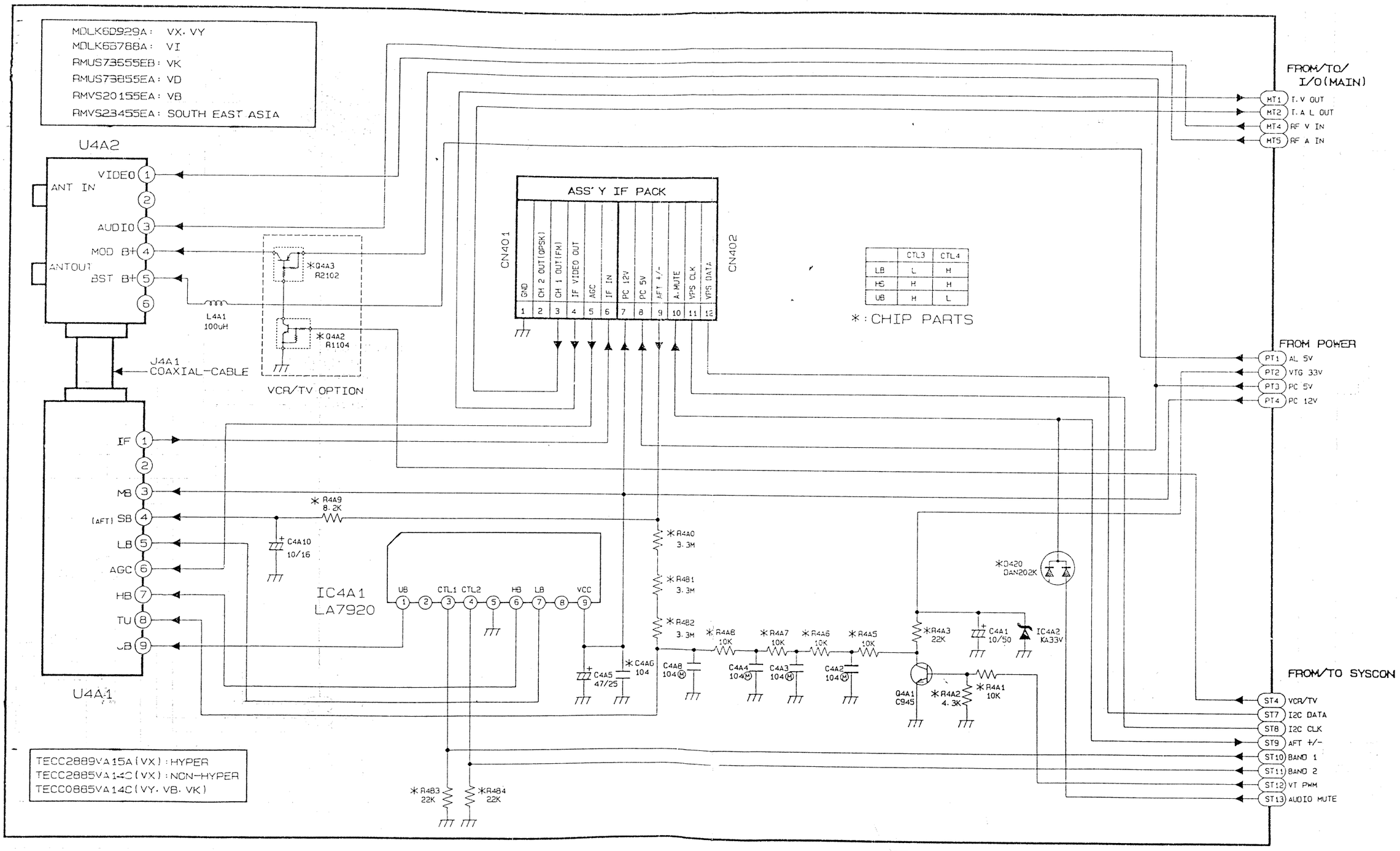
AUDIO

IC501 LA7295



TUNER

9-8. Tuner



SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
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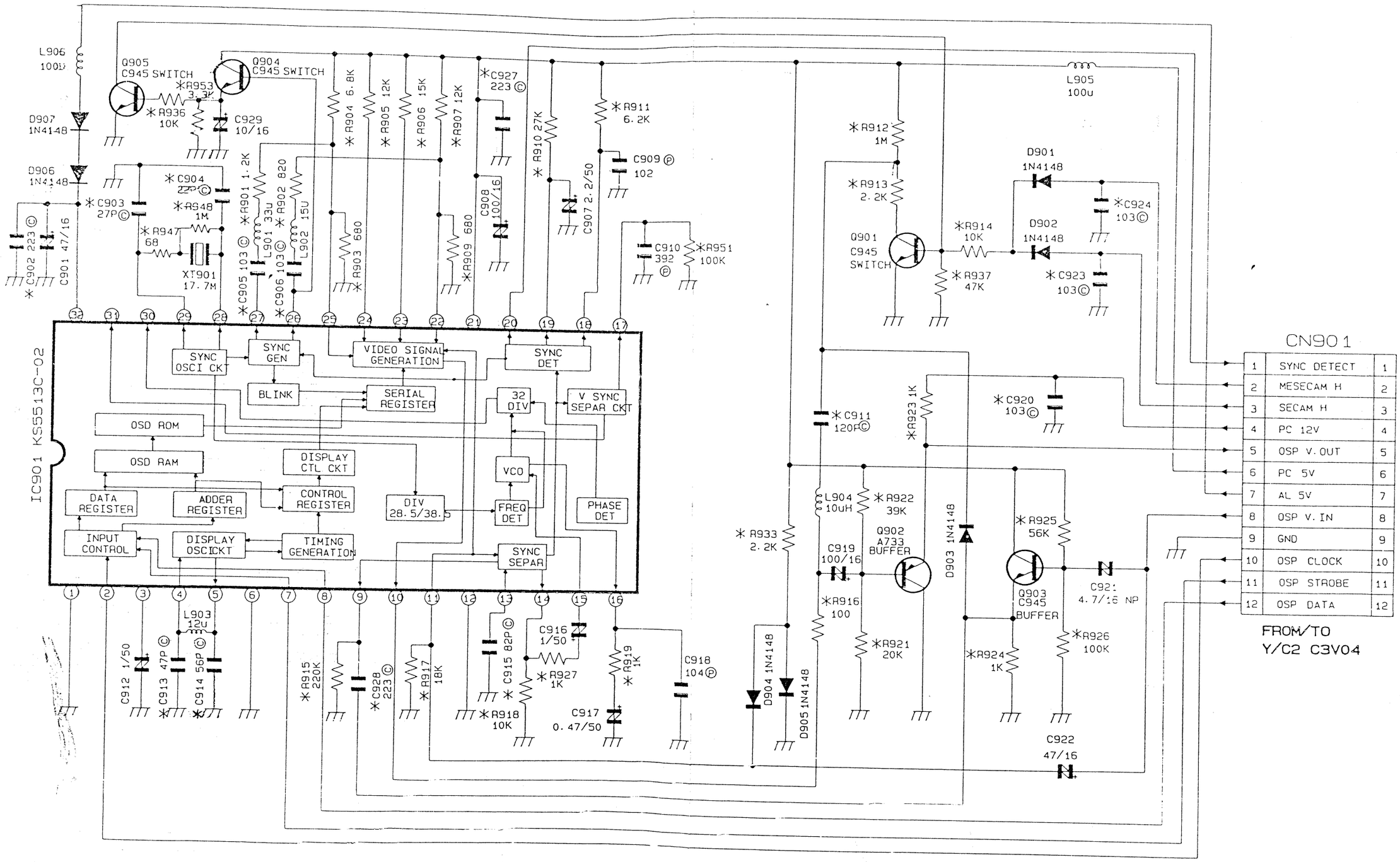
9-10. O.S.P (OPTION)

O. S. P



*: CHIP PARTS

SPECIAL NOTE
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NOTE
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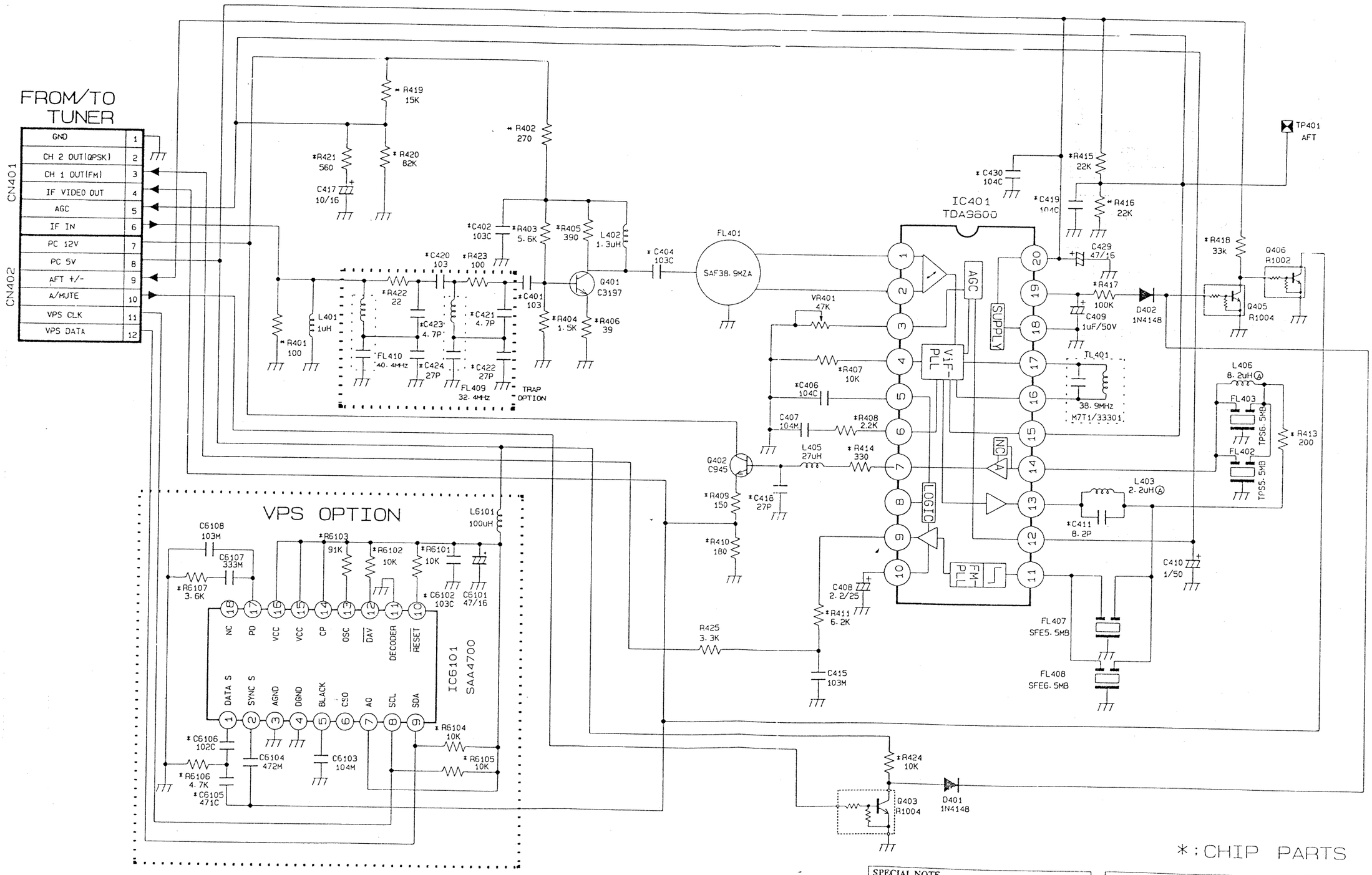
9-9. IF-PACK

IF-PACK



SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

NOTE
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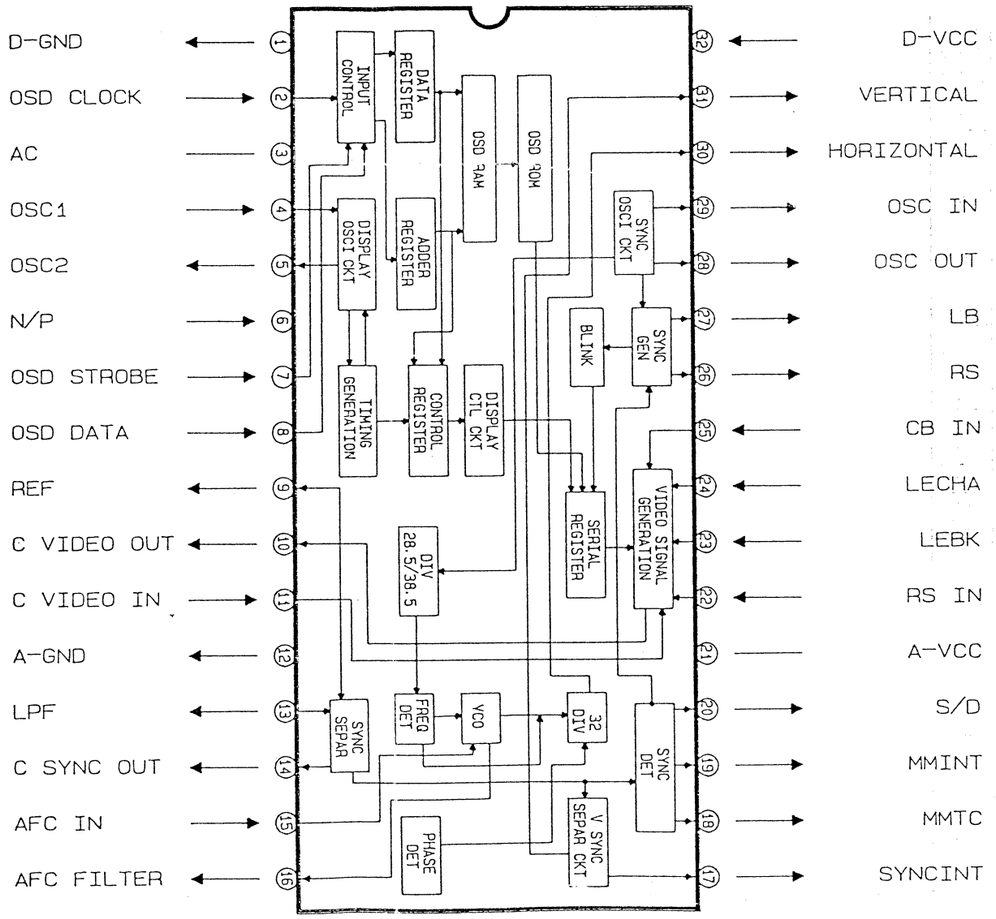
O. S. P

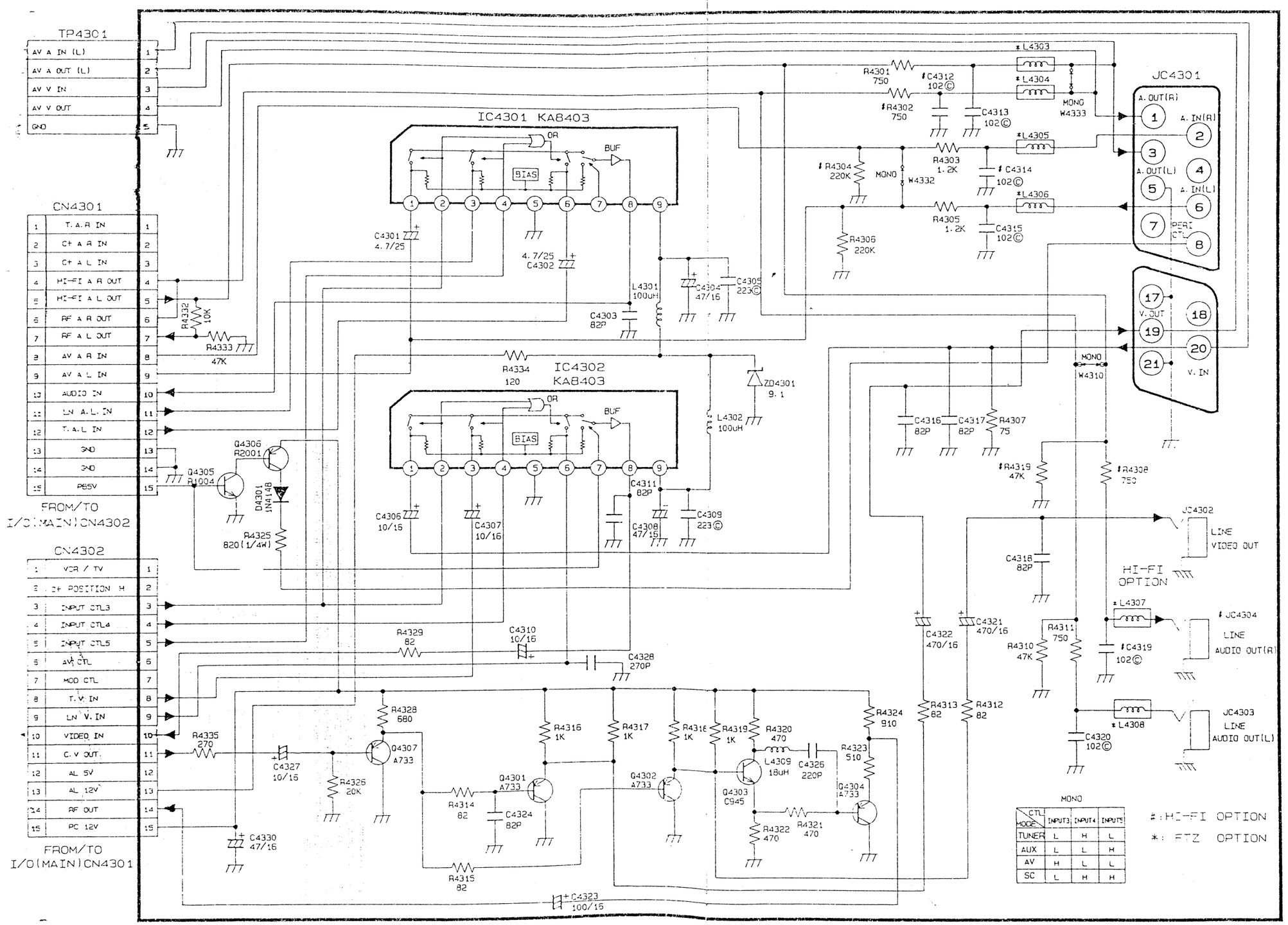
IC901		
MODE / PIN NO	SIGNAL OUT	BLUE OUT
1	0	0
2	0-4.4	0-4.4
3	3.6	3.6
4	-	-
5	-	-
6	0	0
7	4.4	4.4
8	0	0
9	-	1.6
10	-	-
11	-	0.6
12	0	0
13	-	1.7
14	0.1-4.1	4.0
15	0.3-2.9	0
16	2.2	2.3
17	-	4.8
18	-	0.5
19	1.75	5.0
20	0	0
21	5.0	5.0
22	0.8	
23	0.8	0.8
24	2.2	2.1
25	0.6	0.6
26	0	
27	0	0
28	-	-
29	-	-
30	0-3.7	0-3.7
31	0-3.7	0-3.7
32	3.7	3.7

IC901 KS5513



I / O (SUB)

9-11. I/O (SUB PCB)



NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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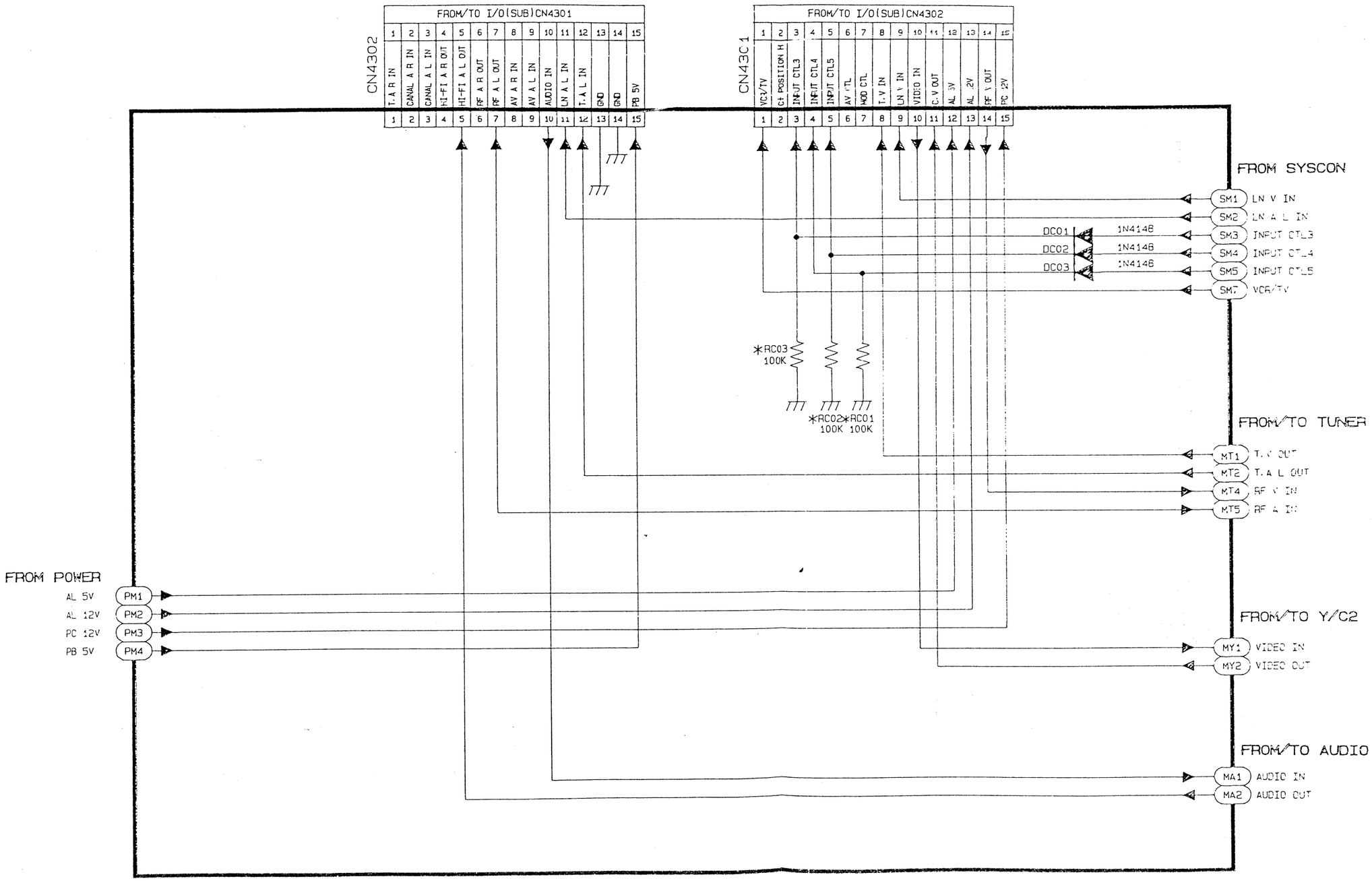
9-12. I/O (MAIN PCB)

I / O (MAIN)



SPECIAL NOTE
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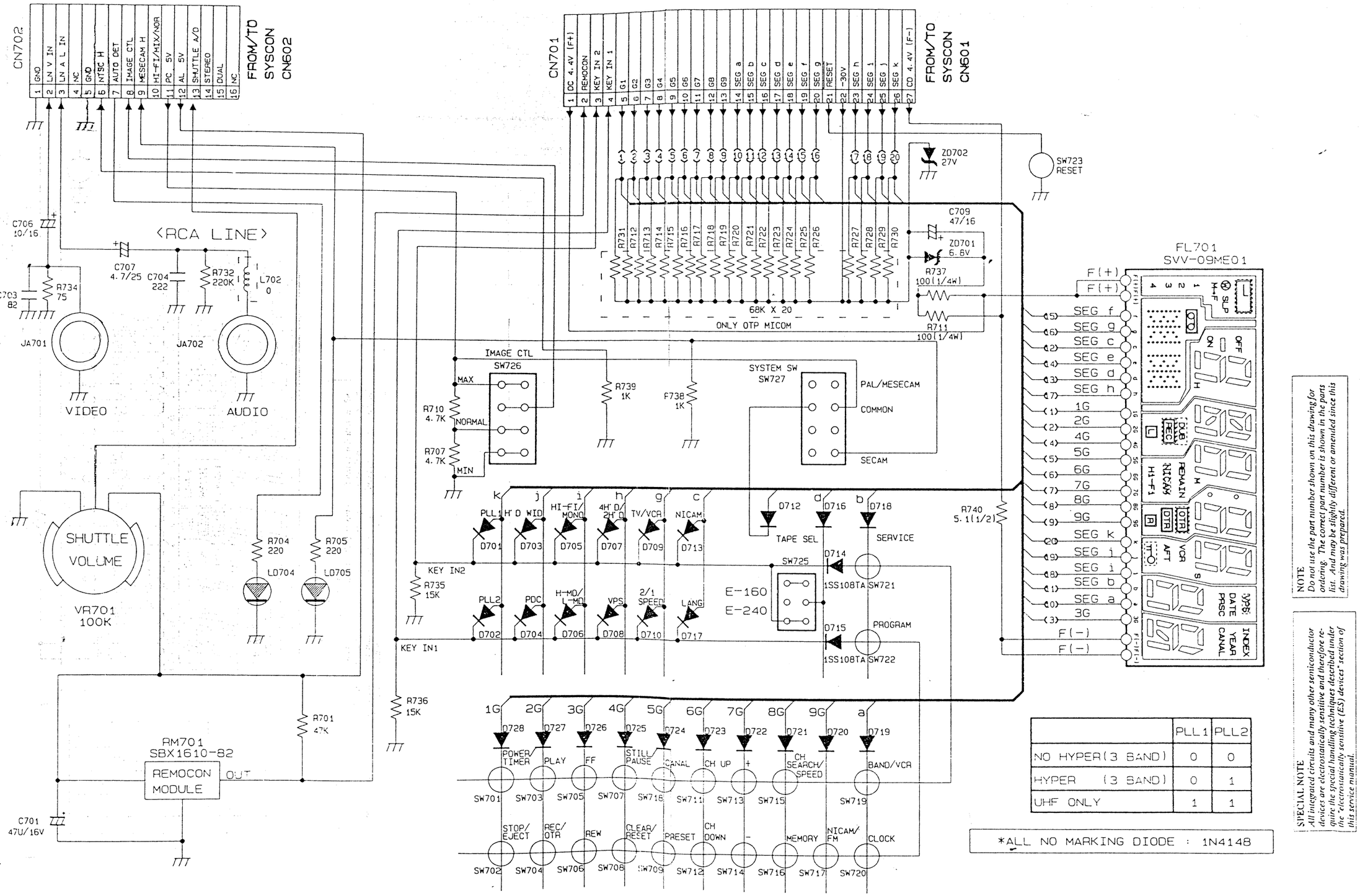
NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

*: CHIP PARTS

FUNCTION/TIMER

9-13. Function/Timer (VK-350/VK-320)



	PLL1	PLL2
NO HYPER(3 BAND)	0	0
HYPER (3 BAND)	0	1
UHF ONLY	1	1

*ALL NO MARKING DIODE : 1N4148

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
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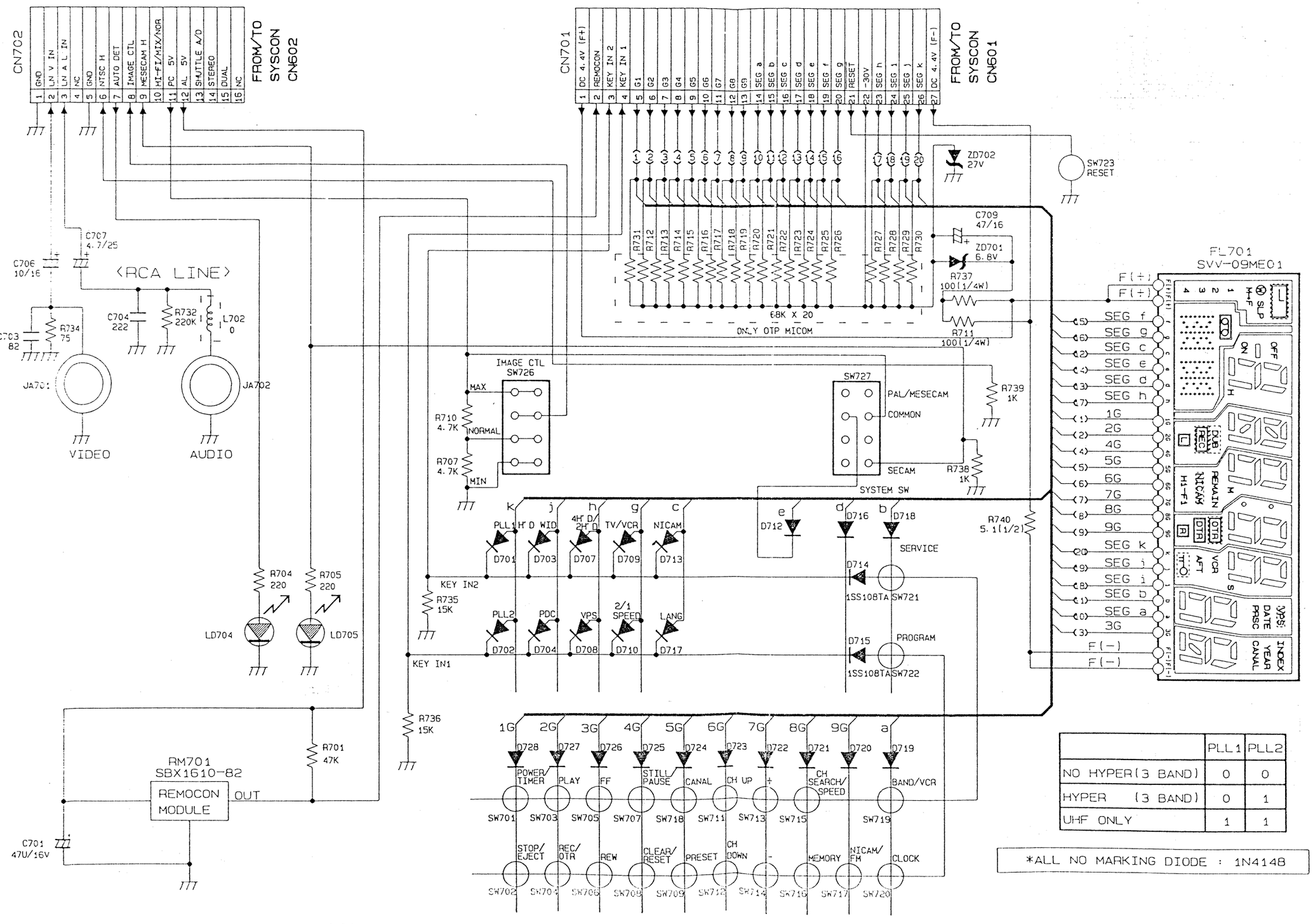
FUNCTION/TIMER

9-14. Function/Timer (VK-330/VK-300)



	PLL1	PLL2
NO HYPER(3 BAND)	0	0
HYPER (3 BAND)	0	1
UHF ONLY	1	1

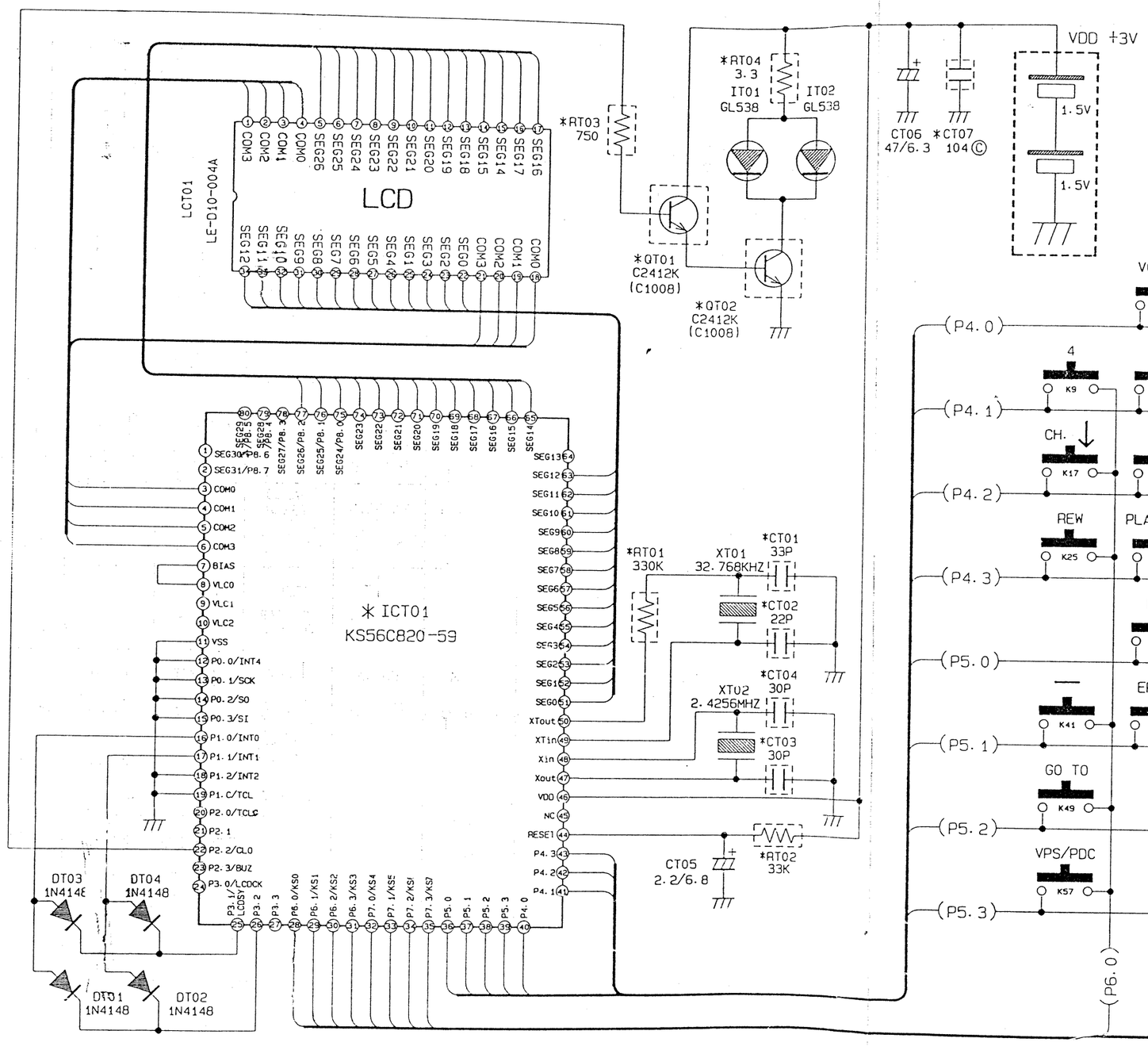
*ALL NO MARKING DIODE : 1N4148

NOTE
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

SPECIAL NOTE
All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostatically sensitive (ES) devices" section of this service manual.

LCD
REMOTE CONTROL

9-15. LCD Remote Control



OPTION	BE	NOT BE
DT01	SP/LP	SP ONLY
DT02	50 POSITION	51 POSITION
DT03	VPS	NON VPS
DT04	PDC	NON PDC

* OR [ ] : CHIP PARTS

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NOTE
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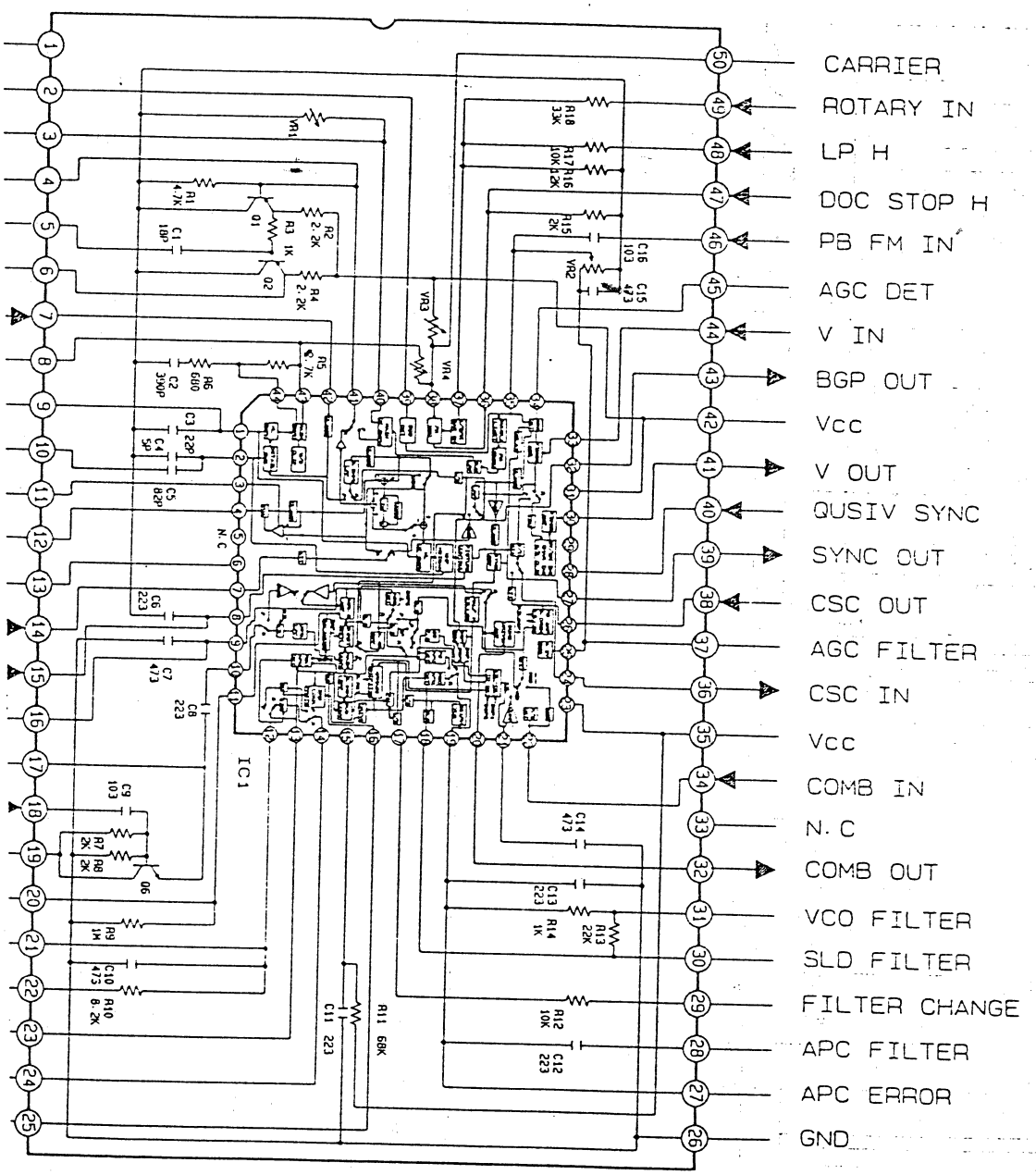
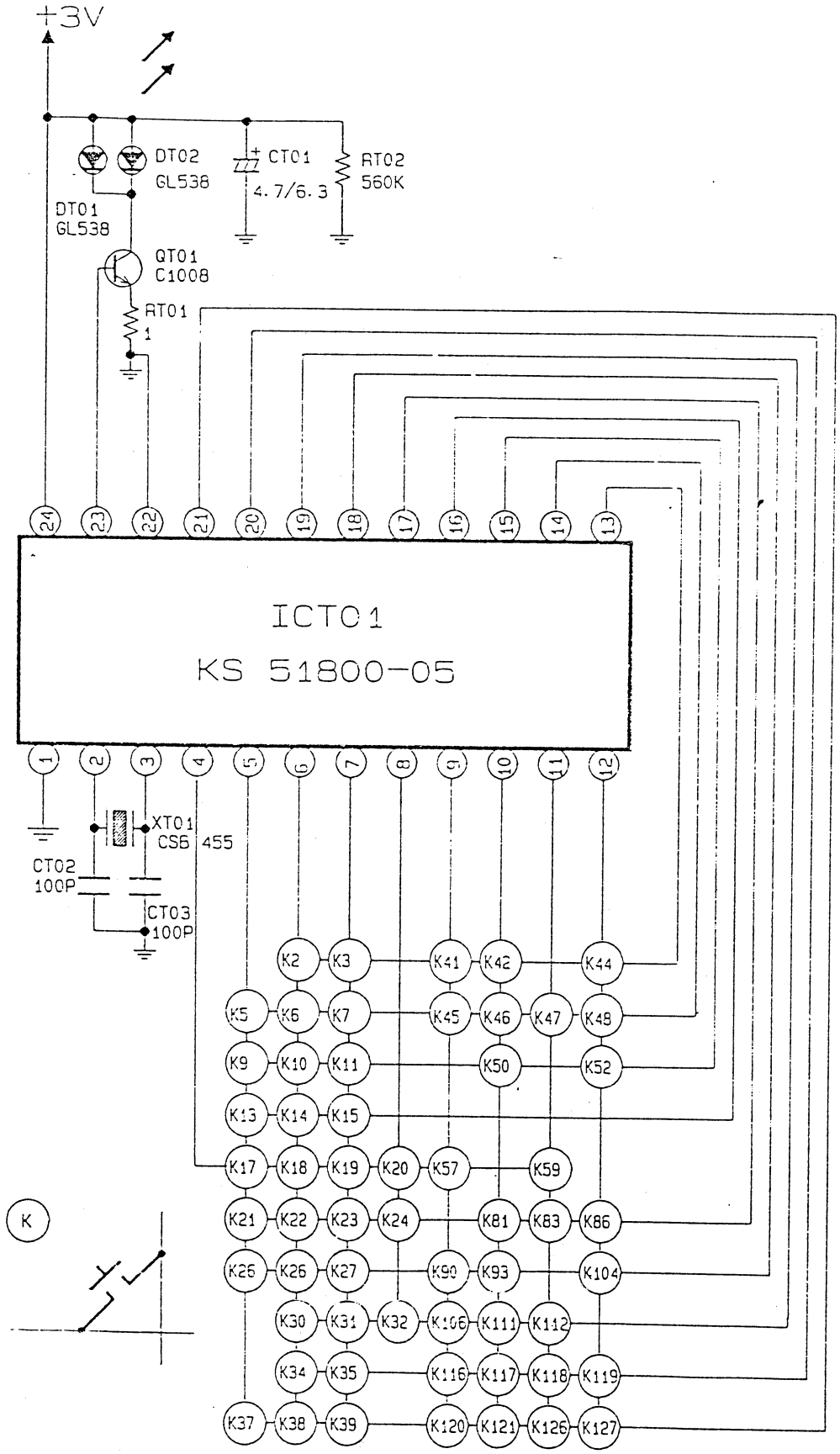
Y / C - 1


CARRIER
ROTARY IN
LP H
DOC STOP H
PB FM IN
AGC DET
V IN
BGP OUT
Vcc
V OUT
QUSIV SYNC
SYNC OUT
CSC OUT
AGC FILTER
CSC IN
Vcc
COMB IN
N. C
COMB OUT
VCO FILTER
SLD FILTER
FILTER CHANGE
APC FILTER
APC ERROR
GND
IC1

9-16. W/O LCD Remote Control



	KEY NAME
K2	VCR/TV
K3	POWER
K5	1
K6	2
K7	3
K9	4
K10	5
K11	6
K13	7
K14	8
K15	9
K17	CH DOWN
K18	0
K19	CH UP
K20	SLOW +
K21	REC/OTR
K22	STOP
K23	P/S
K24	SLOW -
K25	REW
K26	PLAY
K27	FF
K30	CLEAR/RESET
K31	DISPLAY
K32	PROG.
K34	D.TRK
K35	OUTPUT
K37	INPUT
K38	SHIFT
K39	+
K41	-
K42	ERASE
K44	INDEX
K45	TRK +
K46	TRK -
K47	DUB
K48	MARK
K50	SEARCH
K52	CLOCK/COUNT
K57	VPS
k59	SP/LP
K81	DOWN
K83	UP
K86	HOLD
K90	ENLARGE
K93	OK
K104	BLUE
K106	CL/REV
K111	TEXT
K112	MIX
K116	RED
K117	AFT
K118	INDEX PAGE
K119	GREEN
K120	YELLOW
K121	i
K126	SHUTTLE -
K127	SHUTTLE +